

SPECIAL: 100 GREAT GIFT IDEAS FOR UNDER \$250

DECEMBER 1993

MacUser

**IT'S HERE! The Best
Color Notebook**



PLUS First Looks at Apple's New Macs



The towering pines, the rain, the light, the delicate leaves. One extraordinary arrangement of pure simplicity. At Microsoft we're so inspired by the concept of everything working as one, we've put that idea at the core of The Microsoft® Office for Macintosh®.

That's what sets us apart.

Not only are our programs so elementally similar in style and smarts that learning one is a lot like learning them all, but they actually

Object Linking and Embedding connects your information between programs. Organically.



link information together interactively. You don't just paste objects like data, text, graphics or pictures anymore. You embed them. Into one unified working environment.

Making a change to that chart in your monthly sales report is easy as a double click of the mouse. Bingo. You're in your spreadsheet. Modify the figures and close the program.

You're immediately back to your work in the word processor and everything has been automatically updated. Just like that.

And soon, Visual Editing will let you make those changes even faster. Because programs in The Microsoft Office will literally work within each other. Completely.

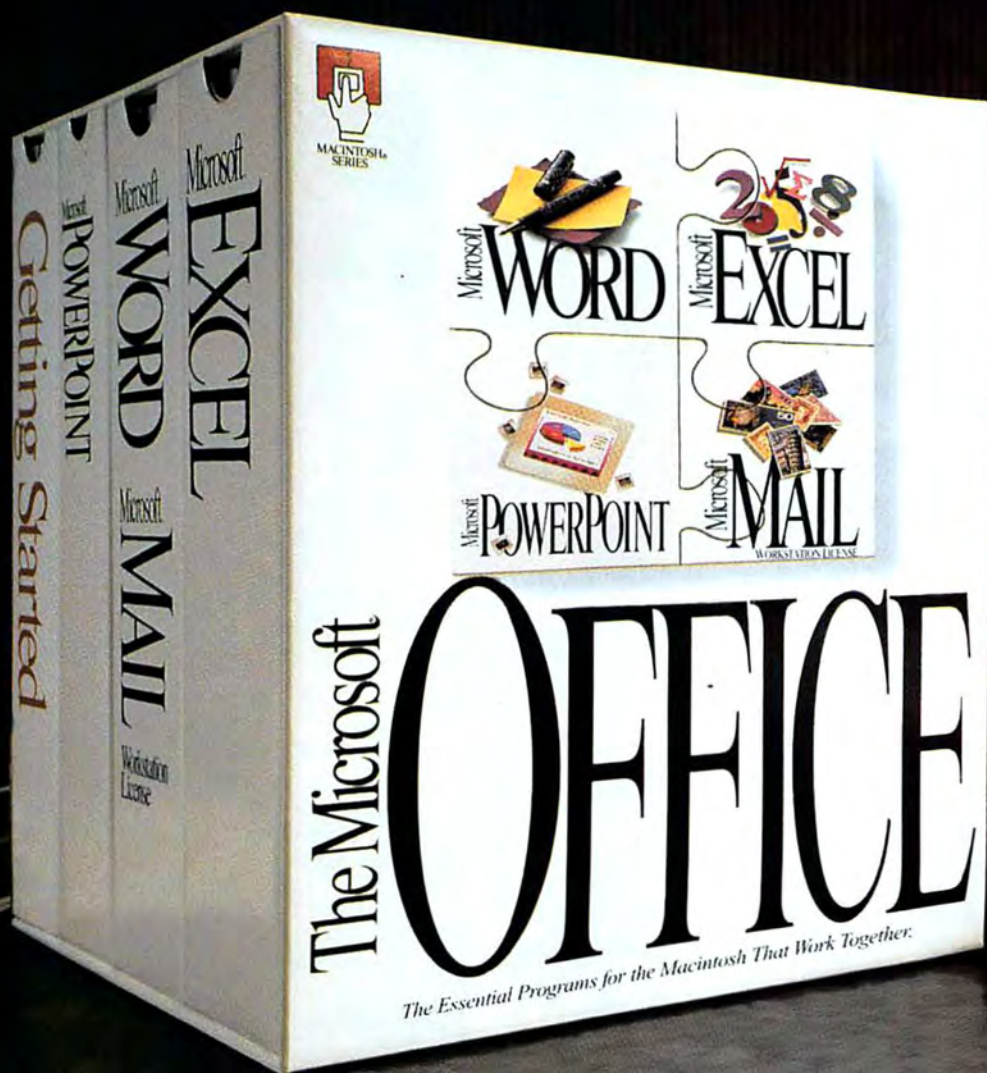
Never again leap between your programs to add charts, pictures, facts, figures or anything else. You can concentrate on what it is you're doing, not how to do it.

Our software will also share powerful programming tools that let you easily create custom solutions for a whole range of everyday business tasks. Automate things like sales reports and order tracking. And skip the monotony of reinventing your own ideas.

So if you want programs that bring all your work together, with more great things on the way, look for Microsoft. It's a natural.

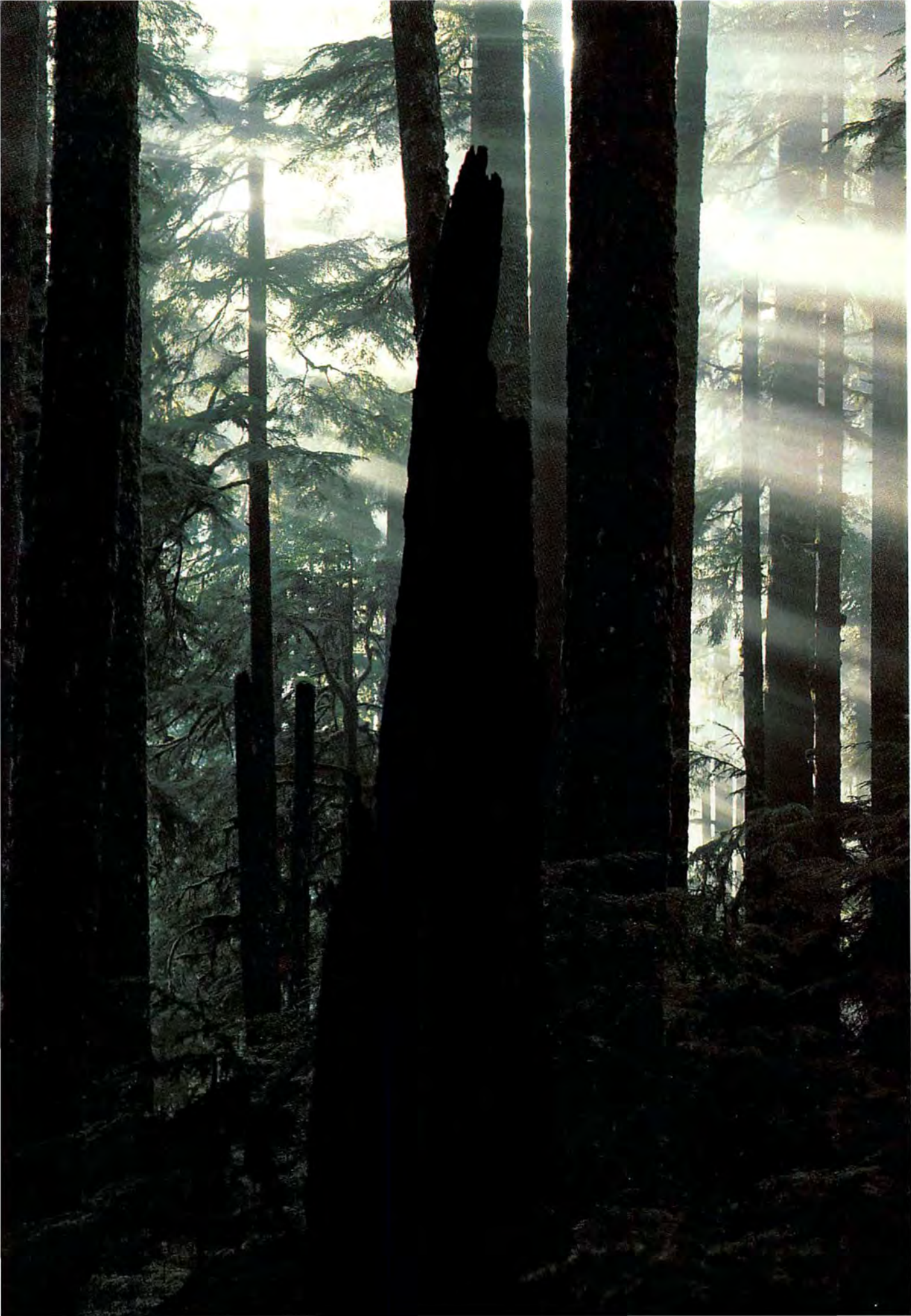
Microsoft
Making it easier

**SOMETIMES THE BEST DESIGNS
IMITATE NATURE.**



A vertical photograph of a forest. The image is dominated by dark, vertical tree trunks that create a series of narrow, light-colored vertical stripes. Sunlight filters through the canopy at the top, creating bright, glowing areas. The overall mood is serene and natural.

**EVERYTHING HERE IS DESIGNED
TO WORK TOGETHER PERFECTLY.**





113
For less than \$1,000,
your Mac can show
its true colors.



131
Your PowerBook will
never be the same.



On the cover: Weighing less
than five pounds and
featuring full 16-bit color,
the PowerBook Duo 270c
returns Apple to the leading
edge of notebook computing.
Cover photo by
Giampiero Benvenuti
Screen image by
Sean Safreed

MacUser

December 1993

Volume 9 Number 12



100
The Duo 270c:
Apple's coolest PowerBook yet.



45
NEC makes a
CD-ROM triple play.

Cover Story

And Then There Were 4

By Russell Ito

MacUser LABS With its latest round of new Macs, Apple attempts to end the confusion about its products by defining four distinct lines — Performas, LCs, Quadras, and PowerBooks. Here's how it all fits together. **92**

Duos Done Right

By Russell Ito

MacUser LABS Featuring sharp active-matrix screens and longer battery life, Apple's new PowerBook Duo 250 and 270c are the brightest PowerBooks to date. **100**

Features

System Software for the '90s

By Henry Bortman, John Rizzo, and Stephan Somogyi

Three long-anticipated System 7 extensions — PowerTalk, AppleScript, and QuickDraw GX — radically extend the functionality of your Mac at a price you can afford. **105**

Affordable Color Upgrade

By Paul Yi

MacUser LABS You can save money without sacrificing quality when you mix and match color monitors and video cards. Here's the lowdown on 13 under-\$1,000 color-video cards for NuBus Macs. **113**

The MacUser 100

By Michele Hasson, Roman Victor Loyola, Amanda Michael, and Jason Snell

It's the fourth annual MacUser 100: MacUser's yearly selection of exactly 100 bargain-priced goodies ranging from the silly to the sublime, with special attention given to products perfect for PowerBook users, college students, kids, hobbyists, and game fanatics. **131**



Reviews

PageMaker 5.0 With version 5.0, PageMaker gains color-separation facilities, improved text-rotation capabilities, and support for multiple open documents. 50

Illustrator 5.0 Illustrator 5.0 aces the competition with a bucketful of enhancements, including floating palettes, plug-in filters, the ability to edit in Preview mode, and support for 200 levels of undo. 52

Adobe Acrobat and **Common Ground** These two digital-publishing products let you create from within any application special documents that anyone can view, regardless of computing platform. 56

EMBARC for the PowerBook For PowerBook users on the go, this combination hardware/software kit offers wireless delivery of information. 67

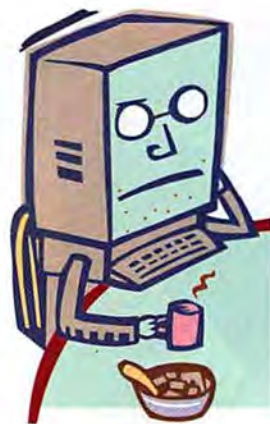
Quicken 4 for Macintosh With more than 100 enhancements, including new investment-management features, Quicken maintains its lead position in the personal-finance-software lineup. 68

AppleShare Pro and **Apple Workgroup Server 95** The AppleShare Pro/Apple Workgroup Server 95 package offers significant speed advantages over its predecessor — but price and ease of use are issues. 73

Working Model Working Model lets you create realistic motion simulations and should garner a following from engineers and physics-savvy animators. 78

QUICK CLICKS

Safe Deposit and **Safe Deposit Server**: Bargain-priced backup. **Snow Report Writer**: Nimble number formatter. **Musicshop**: Entry-level MIDI tool. **Ambassador**: Bilingual document program translates between English and Japanese. 87



"The Mac crashes less than any Windows machine." 300

Departments

Maggie Canon

Apple's fuzzy new line. 27

Andy Ihnatko

How to get first-class support. 31

Michael Swaine

It's 1984 all over again — or is it? 39

John C. Dvorak

Apple's better Beta Macs. 300

Letters 13

Product/Advertiser Index 257

Marketplace ... 269

Sections

NEW ON THE MENU 45

The PowerPC native-app countdown. Plus: triple-speed CD-ROM drives, a Mac whiteboard, and daisy-chainable Ethernet. 45

DESKTOP PUBLISHING 155

Techniques Four shareware products point to an inexpensive paperless-publishing future. 157

Photoshop Tips and Tricks Creative use of Photoshop's channel operations gives images a Gaussian glow. 170

BRIDGES 173

Data Retrieval Apple's powerful new AppleSearch utility brings full-text-indexing technology to multiple users on a Mac network. 175

Mac to PC Four products provide a simple way to move files between Macs and PCs without a dedicated file server. 179

POWER TOOLS 183

Techniques Keeping your Mac fit is not only smart but it's also easy with one of these troubleshooting tools. 185

Shopping List How to buy audio tools for the Mac. 193

The Mac Workshop Installing an internal hard drive. 197

Tip Sheet 201

Help Folder 205

183

Ever wondered what makes Macs work?



Pick a lock! Beat a thief!



Pick the lock that suits you best: Standard, Key Disk, or Token Disk locking options keep your PowerBook, or any other Macintosh, safe and secure. It's security for the Book by the people who wrote the book on security, Kent-Marsh Ltd.



NightWatch II offers the largest variety of automatic time-locking options available. You choose who can access your Macintosh, when, and for how long. Choose whether locking occurs at shutdown, restart, PowerBook sleep, or when preset criteria are met. Your Mac will be secured effortlessly, even when you forget.

- State-of-the-art administration lets you safely override forgotten passwords, set user privileges, create detailed audit logs, and much more.
- Works with all Macintosh hard drives – SCSI, serial, and removable.
- Screen privacy lock protects your computer and allows background processing while you work.
- Easily installed and modified over a network – perfect for site licensing.

**Discover what
any intruder
will discover –
you can't beat**

NightWatch II



Kent-Marsh Ltd.

The Security Software Experts

(800) 325-3587 • (713) 522-5625

CIRCLE 78 ON READER SERVICE CARD.

4 December 1993 MacUser

MacUser

How to Reach Us

Subscription problems? Call 800-627-2247.

The editors of *MacUser* want to hear from you. Send questions (Help Folder), tips (Tip Sheet), complaints, or compliments to *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404. Send electronic mail to MCI Mailbox 584-5561; CIS 72511.356; or ZiffNet/Mac (see below). *MacUser's* general number is 415-378-5600. We are unable to look up stories from past issues, recommend products, or diagnose your Mac problems by phone. Call Apple toll-free at 800-538-9696, ext. 500, for information on user groups in your area.

Subscription Inquiries/Change of Address

If you want to subscribe to *MacUser*, have a question regarding a subscription, or wish to request that your name be excluded from mailing lists, call 800-627-2247 (U.S. and Canada only) or 303-447-9330 (all other countries) or fax 303-443-5080 (international subscribers only) or write to *MacUser*, P.O. Box 56986, Boulder, CO 80322-6986. New subscriptions and address changes take six to eight weeks. For back issues (subject to availability), send \$7 per issue, \$8 outside the U.S., to Back Issues Dept., Ziff-Davis Publishing Company, P.O. Box 53131, Boulder, CO 80322. *MacUser* (ISSN 0884-0997) is published monthly, with an extra issue in November, by Ziff-Davis Publishing Company, L.P., One Park Avenue, New York, NY 10016. Editorial Offices: 950 Tower Lane, 18th Floor, Foster City, CA 94404. Telephone: 415-378-5600. U.S. subscription rates are \$27 for 12 issues, \$45 for 24 issues, and \$62 for 36 issues. Additional postage for Canada: Add \$16 per year to the U.S. rates for surface mail. Single-copy price is \$2.95 (Canada, \$3.95). Canadian GST registration #R-123669673. Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 278521. POSTMASTER: Send address changes to *MacUser*, P.O. Box 56986, Boulder, CO 80322-6986. Second-class postage paid at New York, NY 10016, and at other mailing offices.

ZiffNet/Mac: MacUser On-Line

Follow these steps to join ZiffNet/Mac: Call 800-635-6225 (voice) to find your local access number. Dial the local access number with your modem. When connected, press Return. At the following prompts, type in the responses printed in **bold**: Host Name: **CIS**. User ID: **177000.5200**. Password: **Z*MAC**. Agreement Number: **Z12D9014**. CompuServe users can just type GO ZMAC at any 1 prompt.

MacUser on CD-ROM

MacUser is available on Computer Select, a CD-ROM published by Computer Library. For subscription information, call Computer Library at 800-827-7889, ext. 708.

Complaints About Advertisers

MacUser's editors are not responsible for the content of the advertisements in the magazine. However, if you bought a product advertised in *MacUser*, are dissatisfied, and can't resolve the problem, write to Doris Ashman, Ad Department, *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404. Include copies of relevant correspondence.

Permissions and Reprints

Material in this publication may not be reproduced in any form without permission. Send permission requests to Chantal Lavelanet and reprint requests to Carol Peters at Ziff-Davis Publishing Company, One Park Avenue, New York, NY 10016.

Writing for MacUser

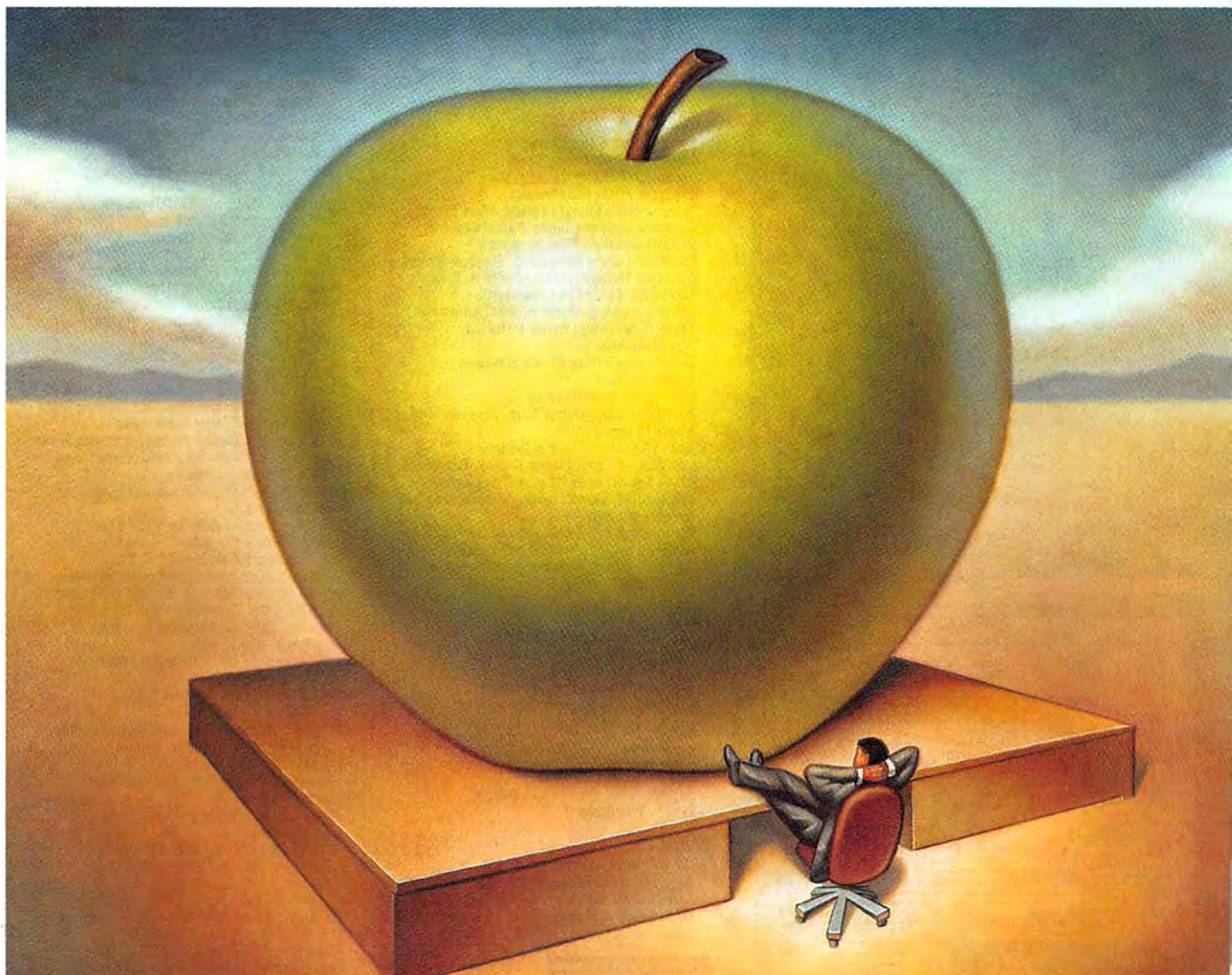
If you have an idea for an article you'd like to write, we'd like to hear about it. Send a query letter with samples of your writing (published, if possible) to James S. Bradbury, *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404. Allow four to six weeks for a reply.

Product Announcements and Updates

Please send press releases to Kristin Mellone, *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404.

In Memory of
John J. Anderson
1956 – 1989
and
Derek Van Alstyne
1967 – 1989

Hewlett-Packard® suggests you look beyond the obvious for your next Mac printer.



Don't miss out on one of the best things going. Made-for-Mac HP LaserJet printers. The new LaserJet 4MP completes a family of LaserJets built specifically for your Macintosh.

Choose from 300- or 600-dpi print quality, and prices ranging from \$1,279 to \$2,399. Setup is easy. And with built-in PostScript™ Level 2 software from Adobe, you'll be ready to roll with the latest features in Mac printing. LocalTalk means built-in Mac compatibility.

And a RISC processor means fast printing from start to finish.

These printers have standard memory that ranges from 4 to 6 megabytes. That's plenty for your graphics. For documents with zip and zing, you'll have 35 built-in PostScript Type 1 typefaces. And, thanks to HP's automatic language and I/O switching, LaserJets work simultaneously with Macs and PCs. In fact, HP leads the industry in cross-platform compatibility.

When you choose HP LaserJet, you'll have a printer with a legendary reputation. For quality. And reliability. For more information call 1-800-LASERJET, Ext. 7685.

**If it isn't a LaserJet,
it's only a laser printer.**



"FirstClass Outperforms Competitors Easily"

BYTE Magazine
09/93

More than just a leading multi-platform e-mail system, FirstClass features electronic conferencing and remote access—all in the same package.

E-mail

Conferencing

Remote Access

BYTE magazine says "FirstClass blends conferencing and mail together under a remarkably clean interface that goes far beyond the capabilities of most mail systems ... a regrettably rare example of a useful piece of software."



FirstClass™

- Macintosh® and Windows support on the same network or via modem without costly file servers
- Easily accommodate upwards of 20 simultaneous modem connections and more than a hundred network sessions on one server
- Connectivity via network or modem to other FirstClass servers or other mail systems
- Remote or local administration with the same client others use
- Messages with multiple fonts, styles and colors & unlimited file attachments
- Simultaneous multiple up & downloads
- Online sound and graphics
- Background searching
- Gateways to the Internet with full Usenet newsgroup replication
- Fax gateway for individual or broadcast faxing and more!

DEALER & CONSULTANT INQUIRIES WELCOME!

SoftArc Inc.
Global-Area Communications

1902 Ridge Road, #325, West Seneca, New York, USA, 14224
Fax: 416-754-1856 Internet: sales@softarc.com FirstClass: 416-609-2250

Phone: 416-299-4723

CIRCLE 64 ON READER SERVICE CARD.

MacUser

Publisher

Janel Ryan

Editor-in-Chief

Maggie Canon

Editorial

Editor James S. Bradbury
Managing Editor Nancy Groth
Technical Director Henry Bortman
Executive Editor Rik Myslewski
Senior Editors Cheryl England, Mark Frost, Russell Ito, Susan Janus, Pamela Plifner, Victoria von Biel, Elisa M. Welch
Technical Editors John Rizzo, Stephan Somogyi
Associate Managing Editor Claire H. Breen
Chief Copy Editor Eva Langfeldt
Associate Editors Shelly Brisbin, Alfred Melo, Bruce Mewhinney, Karen J. Ohlson, Jim Shatz-Akin
Senior Copy Editors Rhoda Simmons, Leslie Steere
Copy Editor Clifford Colby
Assistant Editors Darryl Chan, Amanda Michael, Nancy Peterson
Editorial Assistant Kristin Mellone
Contributing Editors David Biedny, Don Crabb, Bruce Fraser, Andy Ihnatko, Ted Landau, Bob LeVitus, Tom Pelaccia, Michael Swaine, Gregory Wasson
Contributing Anti-Editor John C. Dvorak
Assistant to the Editor-in-Chief Teresa Campbell
Editorial Interns Louis Fonseca Jr., Nina Jackson, Jason Snell

MacUser Labs

Labs Director Jeffrey S. Pittelkau
Associate Labs Director Mark Bieler
Project Leaders Tony A. Bojorquez, Jeffrey K. Milstead, Sean Salreed
Lab Technician Roman Victor Loyola
Lab Administrator Anthony Stoltz

2D Labs

Director Robert W. Kane
Test Manager, MacUser/MacWEEK
Paul R. Freedman

Design

Art & Design Director Lisa Orsini
Senior Associate Art Director Diane Dempsey
Associate Technical Art Director Peter Alan Gould
Art Production Manager Jan McKenzie Rogers
Technical Illustrator Mark W. Sweeney

Advertising/Sales

Advertising Coordinator Elizabeth McGinnis

Production

Production Director Carlos Lugo
Production Manager Dennis Fitzgerald
Assistant Production Manager Monique Rizzo

Marketing

Director of Marketing Jeff Bruce
Marketing Manager Laurel Skillman
Events Manager Stacy Hollingsworth
Marketing Coordinator Renee Bula
Marketing Assistant Erin Gaffaney
Marketing Administrator Cristl Leer

Operations

Business Manager Cynthia Mason
Assistant to the Publisher Susan Logan
Assistant to the National Sales Director Diane Powers
Assistant Account Representative Doris Ashman

On-Line: ZiffNet/Mac

Executive Editor, On-Line Services Ben Templin
Project Leader Shafath (Shet) Syed
Associate Editor Mark Simmons

Ziff-Davis Publishing Company

Chairman and CEO Eric Hippeau
President J. Scott Briggs
President, Ziff-Davis Domestic Publications Group Ronni Sonnenberg
Executive Vice President, Centralized Operations Group Mike Edelhart
Executive Vice President, International J. B. Holston III
Group Vice President, Controlled Circulation Publications Claude P. Sheer
Group Vice President, Paid Circulation Publications Jeff Ballowe
Senior Vice President, Circulation Baird Davis
Senior Vice President, Marketing Paul H. Chook
Senior Vice President Rachel Greenfield
Vice President and General Manager Louis B. Dotti, Jr.
Vice President, Central Advertising Sales Bob Bader
Vice President, Circulation Services James F. Ramaley
Vice President, Controller Howard Scolnik
Vice President, Creative Services Herbert Stern
Vice President, Europe Frank Kelcz
Vice President, Human Resources Rayna Brown
Vice President/Managing Director, Magazine Networks Joseph Gillespie
Vice President, Marketing Services Ann Pollak Adelman
Vice President, New Projects and Strategic Planning Robert D. Ziff
Vice President, Operations Dirk Ziff
Vice President, Production Roger Herrmann
Vice President, Research Rolf M. Wulfsberg
Vice President, Technology Bill Machrone
Vice President, ZD Magazine Networks Marian O. White
Vice President, Assistant to the Chairman J. Samuel Huey
Vice President Jim Stafford
Vice President Don Byrnes
Chief Information Officer Wellington Y. Chiu
General Manager Bruce W. Bourne
Assistant to the Chairman Tom McGrade
Executive Director, Information Systems Owen Weekley
Executive Director, Marketing Services Jim Manning
Director of Licensing Jean Lamensdorf
Director of Planning Gary A. Gustafson
Production Director Walter J. Terlecki
Director of Sales Training Dan Leonetti
Director of Corporate Marketing Susan Delman
Editorial Director Lewis D'Yorkin
Co-directors, ZD Benchmark Operation Bill Catchings, Mark L. Van Name
Director, Direct Marketing Programs Alicia Marie Ivans
Director of Public Relations Gregory Jarboe

Ziff Communications Company

Chairman William B. Ziff, Jr.
Vice President and Special Assistant to the Chairman Bruce R. Barnes
Senior Vice President Steven C. Feinman
Vice President, General Counsel and Secretary J. Malcolm Morris
Vice President, Business Manager T. L. Thompson
Vice President, Chief Information Officer Thor Olson
Controller and Treasurer Timothy J. Mitchell



Entire contents © 1993 Ziff-Davis Publishing Company, L.P. All rights reserved; reproduction in whole or in part without permission is prohibited. MacUser is a registered trademark of Ziff-Davis Publishing Company, L.P. MacUser is an independent journal, not affiliated in any way with Apple Computer, Inc.

Printed in the USA

the SKY'S the LIMIT



Feature Comparison: ALLright vs. NOW Utilities

Product		ALLright	NOW Utilities
Company		MSA	NOW Software
Price		\$129.00	\$149.00
Memory Requirements	Extension Memory Usage	71k	193k
Extensions/cdevs Required	Extensions/cdevs Required	1	7
Ease of Configuration	Global Users and Sets	■	
Background File Copies	Faster Copies	■	
	Background Copies	■	
	Copy to Multiple Destinations	■	
Backup	File/Folder Backup	■	
	Auto-backup over ARAP	■	
Startup Management	Specify Loadable Extensions	■	■
	Show Extensions Memory Needs	■	■
	Re-Order Extensions		■
Digital Notes	Note Pad/Tear-off Notes	■	
	QuickTime Capable Notes	■	
WYSIWYG Menus	WYSIWYG Menus		■
Macro/FKey Management	Menus, Keys, Text, Buttons, Files	■	
Menu Management	Re-order/Define Apple Menu	■	■
	Change Menu Fonts	■	■
	Submenus in Apple Menu	■	■
Sound/Alert Management	Change Beep Sound	■	
	Assigns Sounds to any Event	■	
Document Saving	Auto-Save Documents		■
Printer Selection	Easy Printer Select	■	
	Configure Printer Menu	■	
Dialog Management	Open/Save Dialog Replacement	■	■
	Search for Files	■	■
	Delete Files	■	
	Change Sort Order	■	
	Link to Finder Windows	■	
Balloon Help Control	On-Demand Balloon Help	■	
Scrapbook Replacement	Scrapbook Replacement		■
System Profiler	System Profiler		■

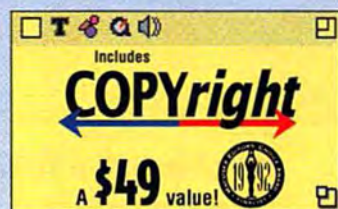
ALLright
ENHANCEMENTS

ALLright
ENHANCEMENTS

ESSENTIAL UTILITIES FOR YOUR MACINTOSH!

The sky is the limit with new software from MSA that makes your Macintosh® computer look, feel, and work the way you've always wished it did. Breeze through directory dialogs. Tame tangled INITs. Modify menus to your heart's content. And that's just the beginning.

GO WILD! Annotate your work with digital sticky notes. Place brilliant Notes anywhere. On the desktop, or perhaps hot-linked to a folder. Have them auto-play sounds and QuickTime® movies. Do anything you want. It's your Mac. Go wild.



BE PRODUCTIVE! Complete repetitive tasks with a keystroke. Click buttons, use menus, open documents, launch applications, and copy files. All without ever leaving your keyboard. It's that easy.

SAVE TIME! Copy files in the background, switch printers without ever looking at the Chooser, link your favorite sounds to just about anything, automatically backup your valuable documents, and save your precious time, energy and money.

SAVE MONEY! There's still more, but you get the point. Everything you want. In one intuitive, inexpensive software package – with no fluff. It's called ALLright. It's from MSA. And it's available now.

Call **800.366.4622** and we'll show you how to soar.



Dealer Inquiries Welcome
Also available through these quality software resellers:
Dr. Mac 800.825.6227 • Mac's Place 800.367.4222
MacWarehouse 800.255.6227

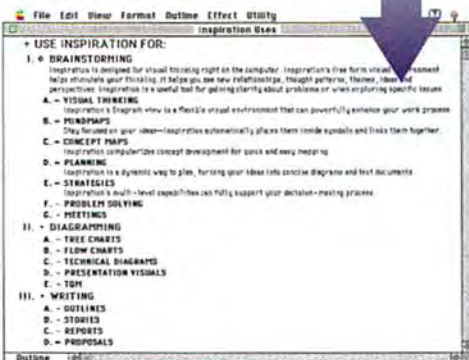
© 1993 Management Science Associates, Inc.
Management Science Associates, Inc., CSG Technologies Division,
530 William Penn Place, Suite 329, Pittsburgh, PA 15219-1820
800.366.4622 • 412.471.7170 • Fax: 412.471.7173
AppleLink: MSA • America Online: MSA
ALLright is a trademark of Management Science Associates, Inc.
All Rights Reserved Worldwide. Macintosh and QuickTime are registered trademarks
of Apple Computer, Inc. Now Utilities is a trademark of Now Software, Inc.
CIRCLE 42 ON READER SERVICE CARD.

Inspiration®

The Easiest Way to
Brainstorm, Diagram & Write!



Fully Integrated Views!



Inspiration is a powerful idea development and planning tool. In Diagram view, quickly brainstorm ideas and visually communicate even your most complex



processes, structures and procedures. In the integrated Outline view, organize and transform ideas into effective written documents.



Discover how easy it can be to make great looking diagrams, flow charts, reports and proposals with Inspiration.



MACWORLD 1993

Call today for your **Free Demo!**
(800) 877-4292

Inspiration Software,® Inc.
503.245.9011 • Fax: 503.246.4292

About

MacUser

People Power

It takes a lot of people to put out a magazine of this size and complexity, and many of them work behind the scenes, unseen and unheralded. Among the least heralded are often the interns. Herewith, some heralding:

Louis Fonseca Jr., who began his junior year in high school last September, was the youngest of 1993's Macinterns. Louis helped lab administrator Tony Stoltz with the massive bookkeeping and company tracking required to maintain *MacUser's* evaluation-unit inventory.

"Each week," Louis says, "hundreds of products would come in, and each week, hundreds of products had to be repackaged and returned." For the first three weeks of his internship, all he did was call "every company in the world" to request the current shipping address.

Later, he assisted lab technician and game expert Roman Victor Loyola in game evaluation.

"My friends couldn't believe it. 'You get paid to play games?' they'd say."

You can see some of Louis' game-testing input in "The MacUser 100" this month (see page 131).

Nina Jackson began college this fall, infected with PowerBook lust from her *MacUser* experience.

"I really, really want a laptop," she tells anyone who will listen.

"The best thing about working at *MacUser* was working on sophisticated equipment. In high school, we worked on old-style PCs and the computer classes were crowded. I learned more about computers here in a few months than I learned in all the years at high school."

Nina worked as a researcher for various lab reports, collecting data on hundreds of companies. Her efforts enriched our video-card report "Affordable Color Upgrade," on page 113.

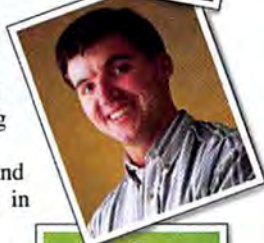
Journalism-school graduate student Jason Snell is no newcomer to writing.

"I've always enjoyed editing and writing," Jason says. At the University of California, San Diego, he was editor-in-chief of the student paper. Although his real job was deciding content, it also fell to him to make sure the network was up. He says he didn't mind, because the job combined two interests: journalism and technology.

Jason got a chance to combine those interests again at *MacUser*, writing and editing several pieces, including a major contribution to "The MacUser 100" and a sidebar featuring his own publishing venture, an on-line fiction magazine called InterText, for "Digital Free Press" (see page 157).

Thanks to all our behind-the-scenes staffers. And interns, y'all come back now, hear?

— Nancy Groth



MacUser's three summer interns:
Louis Fonseca Jr.,
Jason Snell, and
Nina Jackson.

YOU HAVEN'T HAD THIS MUCH FUN PASSING A NOTE SINCE THE THIRD GRADE.

cc:MAIL FOR MACINTOSH.
GET IT AND PASS IT ON.

It's as easy to use and fun to learn as the Macintosh® itself.

With cc:Mail™ for Macintosh Version 2.0, you simply click on mail icons to check your Inbox, prepare messages, store messages, or send memos. And you can send and receive



text, files, faxes, QuickTime videos and voice annotations. It also supports System 7 and all its capabilities.

Plus, cc:Mail gives you all the power

you'd expect from the world's leading e-mail system. It's the only package of its kind that lets you send messages effortlessly



across Windows™, DOS, OS/2® and UNIX® without the need for gateways. And its unique, scalable architecture can accommodate your growth, whether you're adding 5 people or 500,000. cc:Mail also expedites the not-so-fun task of finding messages, thanks to a Message Finder utility. It lets you search for messages according to subject, text, address, date, size, priority or item.

For a free demo disk of the cc:Mail for Macintosh Platform Pack,

call **1-800-448-2500.**

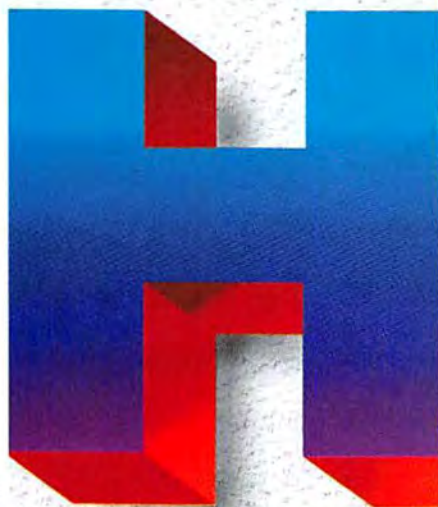
cc:Mail. It makes passing a note as much fun as it used to be.



Lotus
Working Together®

Can HP give you affordable color PostScript

You're lo



Suggested U.S. list prices. Dealer price may vary. In Canada call 1-800-87-2867. Adobe and PostScript are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions. TrueType is a U.S. trademark of Apple Computer, Inc. ©1993 Hewlett-Packard Company PE12524

© 1993 Hewlett-Packard Company
All rights reserved. Hewlett-Packard, the HP logo, and PostScript are trademarks of Hewlett-Packard Company. TrueType is a U.S. trademark of Apple Computer, Inc. All other names are the property of their respective owners.

Software Development Update

Dear Sir,

Thank you for your letter of June 24, 1993, regarding the HP DeskJet printer. We are sorry to hear that you are having trouble with the printer. We will be happy to help you resolve the problem.

Yours truly,
HP

Mr. Thomas R. Kneeling
277 Cambridge Avenue
Cambridge, MA 02142

HP DeskJet Family
Thursday, June 24, 1993

Dear Sir,

Thank you for your letter of June 24, 1993, regarding the HP DeskJet printer. We are sorry to hear that you are having trouble with the printer. We will be happy to help you resolve the problem.

Yours truly,
HP

Mr. Thomas R. Kneeling
277 Cambridge Avenue
Cambridge, MA 02142

HP DeskJet Family
Thursday, June 24, 1993

If you thou
place for col
conservative
communicat
to take a lo
from the fro
enterprise. C
the spread
corresponde
most succes
just those

printing?

Looking at it.

Seeing is believing.

wasn't a
ditionally
business
ight want
dispatches
American
ing up on
orts and
of today's
ics, and
phics and
Recent
ents have
the quality
g printer
of more
ore. With
tition and
ore with
types are
l be the



Get the HP DeskWriter 550C
printer and PostScript software
for under

\$1,000.

Take a good look, because you've probably never seen PostScript™ color printing this affordable before. But here it is, right before your eyes.

Hewlett-Packard now offers Mac users two remarkably inexpensive ways to print using true Adobe® PostScript Level 2 software. If you already have an HP DeskWriter 550C printer, you can add PostScript software for less than \$250.* Or you can buy the HP DeskWriter 550C and PostScript software for under \$1,000.*

PostScript software for the HP DeskWriter 550C gives you 35 standard PostScript fonts, support for Adobe Type 1 and TrueType™ fonts, PostScript language file portability and background printing. All that on a printer that uses HP's own inkjet technology, works with your software, and comes with a three-year warranty, the longest in the industry.

For a closer look at a truly affordable PostScript color printing solution, look in your local Yellow Pages for the name of the HP authorized dealer nearest you.

**DeskJet Printers
Make it happen.**

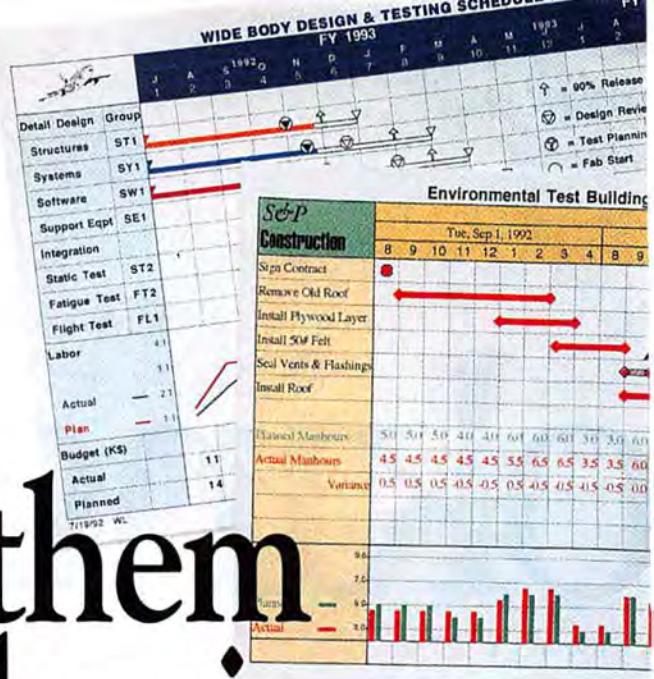


**HEWLETT®
PACKARD**

WinFlow Viewer
Now Available: Open,
View, & Print MacFlow
Files in Windows!

In order to service our customers as accurately and efficiently as possible, and please include a copy of the QC paperwork with every shipment.

**Show them
you mean business.**



MacFlow 3.7

Flowchart Design and Development

Lay it all out for them—the process, the procedures, the relationships. Business works best when everything is clear, and there is no better way to make things clear than a detailed flowchart.

The best way to create flowcharts is MacFlow—the highest-rated flowcharting program. Neither drawing programs nor pencil and paper can create flowcharts as easily as MacFlow. And no program is simpler to learn or use. Graphically organize complex processes, projects, and structures—minutes after opening the package.

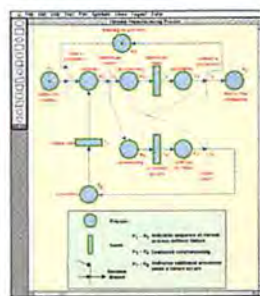
Simply drag pre-drawn symbols onto a page and connect with curved or straight lines. Place text in symbols and on lines, as well as in freestanding notes. Change the chart as desired; lines stretch and stay attached to symbols. Even create stand-alone flowcharts that can be freely distributed to any Macintosh user (and any Windows user with WinFlow Viewer). MacFlow is also System 7-savvy, letting you publish your charts and subscribe to text. Translate to and from text in ASCII and RTF formats as well as outlines created in Acta 7 and MORE.

MacFlow actually enhances your thought process because the interface is so simple and intuitive, nothing stands between your ideas and a presentation-quality flowchart. In fact, you'll find just creating flowcharts keeps your thoughts organized and helps you get a handle on any task.

Show them you're serious—get MacFlow today.



MacUser Magazine July '91



MacSchedule 3.0

Project Planning and Tracking

Lay it all out for them—the plan, the people, the cost. Give them a path to follow and a way to track progress.

Successful projects need a roadmap, and nothing can beat a simple yet comprehensive project schedule.

The best way to create quick, presentation-quality project schedules is MacSchedule. The Gantt-chart interface lets you create schedules, with integrated financial data, minutes after you open the application—unlike complex project management software. And MacSchedule is as easy to learn as it is to use.

MacSchedule automatically creates and manages a project calendar. Just enter task names, then indicate timing with a click and drag of the mouse. Status tracking is also easy—just click on a task bar to show progress.

MacSchedule helps track a project from initial estimates to current status by automatically developing calendarized cost estimates and reporting cost and schedule variances in an Earned Value summary. MacSchedule is also System 7-savvy, letting you publish your schedules and data as well as subscribe to data from other programs. Place schedules in documents for proposals and reports or print schedules as slides, overheads, or wallcharts.

With MacSchedule's graphic feedback, you can tell at a glance where your project is and where it's headed. It's the perfect tool for any manager.

Show them your plans for success—get MacSchedule today.

Mainstay

MacFlow, MacSchedule and other Mainstay products are available through retail and mail-order outlets worldwide. Ask for them at: MacConnection, Mac Zone, Mac's Place, MacWarehouse, CompUSA, Egghead, and other fine retailers and mail-order resellers. In Europe, Mainstay products are available at authorized Apple resellers. WinFlow Viewer is only available direct from Mainstay.

591-A Constitution Avenue, Camarillo, CA 93012 (805) 484-9400 (805) 484-9428 fax
71 rue des Atrébates, B-1040, Brussels, Belgium 322/733.97.91 322/732.32.46 fax

CIRCLE 77 ON READER SERVICE CARD.



LETTERS

K eith Mortimer, of Ogden, Utah, wants to know "What do you guys do with all the hardware and software you use for your tests? I figure everything is either given to you for dramatically reduced prices or even for free." Coincidentally, he wonders whether we might be able to offer him a good deal on some used equipment. Sorry, Keith, but we return all evaluation units. Just for you, though, we might be persuaded to part with a nifty little network bridge from a startup in Brooklyn . . .

Write to Letters to the Editor, c/o MacUser, 950

Tower Lane, 18th Floor, Foster City, CA 94404, or post your letter on the

MacUser Forum of ZiffNet/Mac, our on-line service. All

letters become the property of MacUser, and we reserve the right to edit any letters we print. Please include a return address and a daytime phone number.

Fixing Apple

Maggie Canon's "Getting Back on Track" (September '93, page 21) is right on the money, with one exception. Her point that the Mac OS should have been ported to the Intel architecture five years ago is valid; however, I think she is missing an obvious implication. If and when System 7 makes its debut on a 486, it will have to run Windows applications or no one will buy it!

Unless Apple can entice manufacturers to bundle Macintosh applications with new machines, the Mac OS will never sell without a Windows capability. Look at the trouble IBM is having with OS/2. Even though it's a superior operating system to MS/DOS and can run Windows applications, it isn't exactly setting the world afire in sales.

I think that Apple's development money would be better spent in preparing for the PowerPC Mac introduction. It ought to be a killer machine. Apple's got the chance to take

more than a "spiritual" lead with it.

Mark Hunn
via CompuServe

I disagree with one of Maggie Canon's suggestions for helping Apple catch up. Cloning the Mac is not a good idea. One reason why Mac hardware and software are always compatible and on the cutting edge of technology is that Apple doesn't have to force anyone but itself to accept new standards. Does Apple really want to deal with recalcitrant clone companies that—because they won't risk money on new technologies—end up ruining the name Macintosh?

The Macintosh should remain a sacred cow and not be sacrificed.

Dennis T. Cheung
New Hyde Park, NY

Duo Die

I would like to express my thanks to Henry Bortman for his article on the PowerBook Duo ("I Don't Want a Duo," August '93, page 189). I'm a

Duo 230 owner who has experienced all the problems that Bortman describes. I haven't complained very loudly about my Duo problems, because I didn't want to admit that I got a dud for a computer. If Mr. Bortman had not publicly announced these flaws, I'd still be in denial.

To me, the PowerBook Duo seems to have been rushed to market with too many bugs. Maybe my fellow technophiles will also step forward and admit they paid too much for a computer that does too little.

Victor Hong
Fort Worth, TX

Unlike Henry Bortman, I hate sliced bread. And I found that I disagreed with almost everything else he wrote in his amazingly wrongheaded screed against the PowerBook Duo.

Bortman is correct: The active-matrix screen of the PowerBook 180 is better than the Duo's passive-matrix screen. But what's better than the 180's screen? The 16-inch

Open Folder

This month readers put the heat on companies that charge for upgrades. Michael Olin, of Hermitage, Tennessee, tells us he "recently received an offer from Quark to upgrade to version 3.2 of QuarkXPress for \$195." He continues, "I can't believe the cost of this nonmajor upgrade. I've been using QuarkXPress for six years, and I enjoy it, but I'm going to wait for a major upgrade and put the \$195 into my 401K."

At least Michael was notified of the upgrade. W. Scott Peterson, of Waterbury, Connecticut, shared his recent discovery about Apple service. "When I did not receive my annual notification from AppleCare to renew my service contract, I checked with my dealer. I found out that it's now 'the customer's responsibility' to remember to update. I received no notification whatsoever about this change, and I feel Apple has let me down."

Apple gets another swift kick from Chris Gillespie, of River Edge, New Jersey: "Jeers to Apple and Claris for marketing the

Performa computers with ClarisWorks for Performa. All it is is ClarisWorks 1.03." Chris elaborates further, "A salesperson told me that this was a 'special' version for the Performa. Hogwash. *Special* here is just a euphemism for *old*." The story continues: "Now they want \$69 for an upgrade to 2.0!"

Adam Phillip Churvis, of Norcross, Georgia, sees things in quite a different light. He writes, "Users should quit complaining about software-upgrade prices and paid software support. It seems to me that every time a developer risks the farm by sinking thousands or even millions of dollars into upgrading its products and then asks for a few dollars to offset the cost of giving its customers what they have been whining for, the customers scream bloody murder."

Tired of shabby treatment? Write to Open Folder, c/o MacUser, 950 Tower Lane, 18th Floor, Foster City, CA 94404. The usual caveats about letters apply.



After Dark

THE ULTIMATE SCREEN SAVER

Over 30 incredible displays to prevent phosphor burn-in. Includes Flying Toasters, screen-munchin' worms, and dazzling tropical fish. Plus screen-locking password protection, Company logo and message display, and SystemIQ™ activity monitor.

more *After Dark*

A collection of more than 25 add-on displays featuring contest winners Mowin' Man, Tunnel, Graph Stat, plus more fish to add to your tank. There's also Lunatic Fringe the shoot'em up space game, Boris the kitten, and many more! (Requires After Dark)

BERKELEY
SYSTEMS

1-800-258-2088

SOURCE CODE: 31201

LETTERS

Apple Macintosh Color Display on top of the Duo Dock in my office. Henry, it's not Apple's fault you're too cheap or vain to buy bifocals.

It's not Apple's fault you have fat fingers either. I have average manual dexterity, and I have no complaints about the Duo's trackball. If the trackball is really too small a target for you, get Connectix PowerBook Utilities and bypass the trackball and make menu selections by using keystrokes. Of course, you still have to be able to hit the right keys.

Standard PowerBooks look clunky next to my Duo. I love the Duo's design and the way it feels in my hand when I carry it. I take my Duo down to the local coffeehouse, get a double espresso, sit at a table, and then open up the Duo and watch heads swivel. I'll admit it: It makes me feel cool. And how do you put a price on cool?

David Glanzman
Los Angeles, CA

Kai's the Limit

I was quite impressed by Kai Krause's "Paint by Numbers" (August '93, page 157). I've always been buffaloes by many of Photoshop's features, so I appreciate *MacUser's* providing me with a palatable dose of Photoshop's power focused on a specific capability! Please continue to educate Mac users on the functionality of the more popular applications!

Roger W. Todd
Kingsport, TN

Although Kai Krause is unquestionably one of Adobe Photoshop's most capable practitioners, *MacUser's* presentation of his tutorial in "Paint by Numbers" leaves much to be desired. For instance, the reader is advised to "create a 400-x-300 pixel gray-scale image with anti-aliased text," but no mention is made of just how large (what point size) the text should be. Attempting to relate the text to the illustrations is an exercise in futility. And step 4 (subtract via chops) goes right into step 5 (invert the image) — never mind that there is no discussion of just what the term *chops* refers to. Were we supposed to have clicked on the OK button in the Calculate dialog box

discussed in step 4? I'm not certain anyone can achieve the results displayed in the illustrations by following the instructions in the text. Did someone on your staff actually attempt to follow this tutorial before putting it into print?

Curt Scott
President
Crown Publishing
Santa Clarita, CA

I take my Duo to the coffeehouse, get a double espresso, sit at a table, and open up the Duo and watch heads swivel.

As stated in the third paragraph, the term chops is Kai's shorthand for channel operations, the Photoshop functions he uses in his algorithmic paintings. And, yes, had you followed along at your computer (as I did), you would have seen that you do get results similar to the ones shown in the magazine. I say "similar" because Kai's Photoshop philosophy is that experimentation should be fostered. Try it on 24-point text or a circular object. Try clicking on OK, and see what happens (if you don't click on it, of course, nothing will). — PP

In "Paint by Numbers," Kai Krause's directions were flawless, and I was able to follow them to attain impressive results. He mentioned in the article, "Also, consider that you can capture all these steps in a macro and then play them back on any clean black shape. In fact, you can even re-create the sequence at any resolution."

I looked through my Photoshop manual (I have version 2.0.1), and I can't find any reference about how to accomplish this. Maybe my expertise is simply lacking, but it would be useful if Kai could explain the process of converting his "Paint by Numbers" technique into a macro.

Phillip M. Falsetti
via ZiffNet/Mac

Photoshop doesn't have macros itself, but you can use commercial programs such as CE Software's QuicKeys to transform many complex operations into single keystrokes. — PP

Merdinger Misery

I want to commend *MacUser* for the compelling column by Andy Ihnatko ("The PowerBook from Hell," September '93, page 27). As a Mac user for

**WOULD YOU BELIEVE THIS WAS DONE
WITH MACDRAW® PRO?**



**MACDRAW® PRO,
ILLUSTRATOR® AND
FREEHAND™ USERS:
TRADE UP TO A
DREAM MACHINE
FOR ONLY \$149.**

**CANVAS 3.5
IS NOW
SHIPPING.**

Call 1-305-596-5644. Have your MasterCard, VISA, or Amex card number and expiration date ready. Or mail your original program disk to the address below, along with your credit card information or check drawn in US dollars on a US bank. Offer limited to the US and Canada. Offer subject to change or termination without notice.

Poor Claris. Once again, Canvas™ is running circles around MacDraw® Pro. In fact, they are still trying to catch up to Canvas 3 while we've added dozens of new features and enhancements to create Canvas 3.5. Like 3-D extrusions of text and graphics, enveloping of text and graphics, smart lines, fine kerning, fractals, automatic concentric circles and spirals, and a tool loader that allows you to add tools as you work. There's even a versatile pressure-sensitive freehand Bézier pen tool. And Canvas 3.5 has really outdone itself with new improvements including object blends, binding of text to shapes and curves, Bézier text conversions, and macro windows. Which is just the beginning, because Canvas also includes all the great features of 3.0 like custom parallel lines and curves, our unique SmartMouse™, and more. Comparing Canvas to the competition is like comparing a superbike to a tricycle. And only Canvas is self-upgrading, allowing you to add new tools, effects and file translators at will. Last but not least, while MacDraw Pro is idling somewhere back in the Dark Ages, Canvas features seamless file sharing with its recently released Windows version. Add it all up, and it's Canvas. For the gives you the ride

NEITHER WOULD WE.

easy to see that it's time to shift gears to ultimate in value and performance, Canvas of your life. So go ahead and hop on.

CANVAS™ 3.5

THE HIGH PERFORMANCE DRAWING ENVIRONMENT FROM  SOFTWARE

This entire ad was created and color separated in Canvas. For more information about Canvas and Canvas ToolPAKS™, call Avenue, Miami, Florida, 33173. © Deneba Systems, Inc. Canvas™, SmartMouse™, and ToolPAKS™ are trademarks of Deneba Systems, Inc. registered trademark of Adobe Systems, Incorporated. Freehand™ is a trademark of Aldus Corporation.

(305) 596-5644 or fax (305) 273-9069. Deneba Software, 7400 Southwest 87th MacDraw® Pro is a registered trademark of Claris Corporation. Illustrator® is a

CIRCLE 165 ON READER SERVICE CARD.



MAC UP
GERMANY, 1997



MACWORLD
AUSTRALIA, 1997



MACWEEK
DIAMOND AWARD, JAN '93



SYM MAC
1992



MACWORLD
SEPT 1993



MACUSER
MAY '90, MAR '92



MACWORLD
1993



MACUSER
APRIL '90, JAN '92



MACWEEK
TARGET AWARD, JAN '92



INFOWORLD
DEC 1991



MACWORLD
SWITZERLAND, 1992



MACUSER
SPAIN, 1992

WHICH MAC HAS MY CURRENT DOCUMENTS?



WITH POWERMERGE THEY BOTH DO!

POWER MERGE

If you use more than one Mac, now there's a powerful, easy to use program that makes sure you are always working on the latest version of your documents on each computer. PowerMerge identifies any documents you modified while working on one machine, and automatically updates these documents on your other Macs. And, on a single Mac, it's perfect for on-line backup of your critical data.

Here's what the critics say:

"PowerMerge's three-step synchronization scheme is definitely convenient...PowerMerge is a fine product" *MacWorld* 4/93

"...if you are looking for full featured file synchronization, you are better off with a dedicated utility such as PowerMerge..." *MacWeek* 6/28/93

"Of all the programs tested, we recommend PowerMerge as the easiest system to use." *Mac Home Journal* 10/93

**For more information call
800-828-0883**

Available wherever software is sold.

Leader Technologies • 4590 MacArthur Blvd., Suite 550 • Newport Beach, CA 92660
(714) 757-1787 • Fax (714) 757-1777



CIRCLE 63 ON READER SERVICE CARD.

LETTERS

many years, I have had my share of frustrations with Apple Computer. Ilene Merdinger's story hit a nerve with many Mac users, myself included.

I'm glad *MacUser* took the chance and bit the hand that feeds it. I'm sure it was difficult to single out key individuals at Apple, but that's the kind of action needed to solve problems. Apple spends hundreds of dollars per Macintosh for marketing. How much did it cost Apple when we read the Merdinger-nightmare story?

Mathew Lindstedt
San Jose, CA

Somebody should teach Apple about customer service and public relations. First the IIx debacle and now the shoddy treatment of Ilene Merdinger. The first thing you learn in public-relations training is that word of mouth is the most effective and reliable form of advertising. Do you think that anyone who hears about Ilene's ordeal will be buying a new Mac any time soon? Copping an attitude is not a smart corporate-communications strategy. Apple can't afford to lose any more customers.

Kurt Rahn
El Cerrito, CA

An Honest Politician

In the article "Real NetWare for Macs" (August '93, page 177), John Rizzo states, "Question: What do Santa Claus, honest politicians, and cross-platform networks have in common? Answer: None of them exists." As an honest politician, I must disagree.

Politicians are easy targets. Those in Washington get a lot of press and never seem to know what they are doing. If California is anything like Georgia, then most of your state politicians seem a little screwy. But for every state or national politician, there are dozens of city and county politicians. Most are like me, part-time nonprofessional politicians who are trying to run cities and counties as well as they can while spending the least amount of money. If Mr. Rizzo would attend his local city-council meeting or county-commission meeting, I'm certain he would find some honest and hard-working politicians.

Ronny Richardson
Councilman
Chamblee, GA

I stand corrected: "Yes, Georgia, there is an honest politician." — JR

Flexibility Penalty

Having read your article "Choosing the Right Laser Printer" (September '93, page 124), I am perplexed at your testing methodology. Not surprisingly, the Xante Accel-a-Writer 8100, when set at its highest resolution of 960 x 960 dpi, scored poorly in timing tests when compared with 600- and 300-dpi printers. The reason is simple: When set at 960 x 960 dpi, the Accel-a-Writer 8100 must process four times as much data as when it's printing at 600 dpi and ten times as much as at 300 dpi. This extra processing takes time, which slows printing.

The Accel-a-Writer 8100 can serve multiple roles — if you want the highest-quality output for high-end graphics applications, set it to 960 x 960 dpi; for greater speed, switch to a lower resolution. In fact, your article states, "the Xante Accel-a-Writer . . . printed the document more than twice as fast at 300 dpi as at its default 960 dpi . . ."

You documented in a sidebar that all printers were tested at their highest resolution, but it may have been more meaningful to your readers if you had tested the printers at similar resolutions. It seems that because it offers the added flexibility of higher resolution, the Accel-a-Writer 8100 was penalized.

Martin E. Kennedy
Vice President, Marketing
Xante Corp.
Mobile, AL

Your point is well taken. As the printer capable of the highest resolution among those we tested, the Accel-a-Writer 8100 was understandably the slowest when printing at that resolution — and, as we explained in the story, noticeably faster when set to lower, more common, resolutions. When set at 960 x 960 dpi, the Accel-a-Writer 8100 earned among the highest marks in image quality — excellent output for users who are willing to wait. — RM

Never Say Never

I turned to the back of the September issue to read Dvorak's column, "Breaking Windows" (page 368). I was prepared to see him gloating over Apple's recent troubles. Instead, I found a glimmer of hope. He acknowledged that Microsoft doesn't want to compete with Apple; it actually wants to destroy Apple. Having someone state this in print makes me feel better. Monopoly creates an environment with no diversity, and

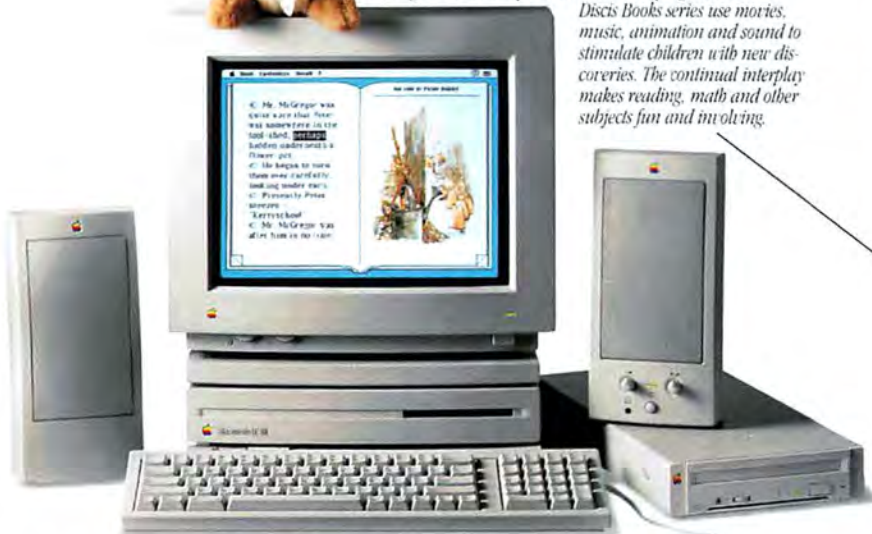
Imagine if you could turn
your computer into
a librarian, an artist,
a teacher, a research
assistant, a historian,
a marketing expert
and an entertainer.



You have



The power to teach. With CDs, learning becomes more than looking at words and pictures. Interactive programs like the Discs Books series use movies, music, animation and sound to stimulate children with new discoveries. The continual interplay makes reading, math and other subjects fun and involving.



The power of speed. The AppleCD³⁰⁰ disc drive represents a new generation of CD-ROM technology. This double-speed drive plays video clips and retrieves information much faster than first-generation CD-ROM drives. Yet the external drive for Macintosh[®], shown here, costs only \$429*. And an internal drive, the AppleCD 300i, is available for IBM-compatible PCs running Windows.

The power to work better. A CD-ROM drive gives businesses extraordinary new capabilities. You can easily add music, graphics and video to presentations. Create interactive training programs. Or consolidate important information on one disc and have it copied — an inexpensive way to store and distribute information.

Market Share - Q1/93



The power of knowledge. A single CD holds more than 500 floppy disks can, making possible inexpensive reference tools that just weren't practical before: interactive encyclopedias; vast libraries of information for business, medicine and more; magazines and newspapers; even the business yellow pages for the United States and Canada.



You already know that a personal computer is an extraordinarily powerful tool for working with documents, spreadsheets and vast quantities of information. What you may not realize is that these capabilities represent only a fraction of the things a computer can do. It can also give you the power to work with sound, video, photographs, animation and other kinds of digital

the power.

The power to have fun. CD-ROM discs make learning more entertaining, so imagine what they can do for entertainment. Battle Chess, for example, turns the staid board game into a whimsical animated battle. And games like The Journeyman Project combine sophisticated story lines with spectacular sound, animation and video.



The power to design. CDs are an incredibly rich resource for graphics—thousands of pieces of clip art fit on one disc. You'll also find huge libraries of photographs, type fonts, sound effects, music and video clips. Even something as simple as a professionally designed background can give your work a crisp, professional look.



The power to explore. Nature. History. Art. Sports. Travel. From the Great Cities of the World to the Think & Talk language series from Berlitz, there are hundreds of subjects you can explore and new skills you can learn. And with interactive CD-ROM discs, you can learn at your own pace.



The power of sound. A CD-ROM drive brings CD-quality sound to your computer. You can make your own music with Rock, Rap 'N Roll from Macworld CD Ventures, or enjoy the performance, commentary and interactive tour of Voyager's Beethoven: Symphony No. 9. You can even play your own music CDs while you work.

information as easily as you work with words and numbers. You probably don't even need to buy a new computer. All you need to do is add a CD-ROM drive to the computer you already have. It's easy to do. It's inexpensive. And it can add an entirely new dimension to the way you work, learn and even have fun. So read on, and find out just how much more your computer can do.

You have t



Great Cities of the World



Business Yellow Pages



Just Grandma & Me storybook



Baseball's Greatest Hits



Roger Ebert's Home Movie Companion



New Grolier Multimedia Encyclopedia



Spaceship Warlock sci-fi game



Mayo Clinic Family Health Book



Exotic Japan



Learning is fun with educational CDs like Arthur's Teacher Trouble, which let young readers control the story.



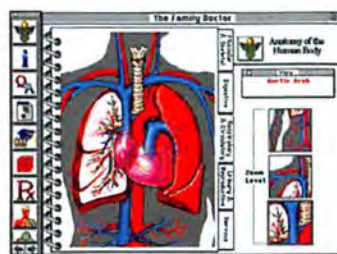
The Outdoor Athlete training CD



Rock, Rap 'N Roll music machine (Macworld CD Ventures)



U.S. Presidents



CDs offer unparalleled new resources. The Family Doctor, for instance, is a richly illustrated, interactive health manual.



Dialog Daily Newspapers on CD



Adobe Font Folio



Mastering Math



Scary Poems for Rotten Kids



All About Science



Business Backgrounds clip art/sound



Who Built America? documentary



Computer Select buyer's guide



History of the World



The Business Week 1000



800 College Boards preparation



World Atlas



Shakespeare complete works



Macworld Interactive



The Greatest Children's Stories Ever Told



CDs allow you to skip immediately to what interests you the most. Just set the clock in the Time Traveler CD and go.



Developing Writing Skills



Peter Gabriel: Explora (Brilliant Media)



Marketplace direct marketing system



Impressionism: Cezanne Art Review



Greg LeMond's Bicycle Adventure



The View from Earth space study



Ocean Life



Adobe Type on Call



Battle Chess



Conception to Birth pregnancy guide



Let's Visit South America



Career Opportunities



AccuZip business mail manager



Sound Library 2000 (Wayzata)



Monarch Notes on CD-ROM



Dinosaurs! Multimedia Encyclopedia



Clinton: Portrait of Victory

The most exciting software available today is only on CD-ROM discs. That's because CDs can hold an incredible amount of audio-visual information, making possible software that would be too impractical or too expensive with floppy disks, or even with a hard drive. Right now there are thousands of titles for Macintosh® and PCs running Windows. They cover virtually every conceivable

he choices.



*Guinness Multimedia
Disc of Records*



*KGB/CLA World
Factbook*



*Rodney's
Wonder Window*



The Complete Audiothon



*Isaac Asimov's
The Ultimate Robot*



*World:
Think & Talk French*



*National Register of
Historic Places*



*Thirteen Roads to
Gettysburg*



*Desert Storm
(Time)*



*NibouWare
Japanese course*



*The Best of
Mark Twain*



*Entertainment becomes far more involving with
audiovisual games. In Who Killed Sam Rupert?
you're the detective.*



Poetry in Motion



*Countries of the World
Encyclopedia*



*Terrorist Group
Profiles*



*DIVA Videoshop &
The Image Bank CD*



*Stravinsky: The Rite
of Spring (Voyager)*



*North American
Indians*



*Sports Illustrated
Almanac*



*Lunatics
3-D moonbase survival game*



*Ephemeral Films
documentaries*



*History of the Blues
(Quebec)*



*Learn to Speak
Spanish*



How Computers Work



*Lili's Kitchen:
Exotic Vegetables*



*The Adventures of
Pinocchio*



*Dictionary of
the Living World*



*USA Wars:
World War II*



*The Great Buildings
Collection*



*Experience the sights and sounds of the world.
From Alice to Ocean follows one woman's
amazing trek across the Australian outback.*



Talking Jungle Safari



*Sherlock Holmes,
Consulting Detective game*



*A Silly Noisy House
audio toy box*



*CDs combine media in entirely new ways.
The Animals! lets you control film clips, photos,
text and sound with friendly screen icons.*



*The Magic Flute
(Warner New Media)*



*Funny
(joke-tellers on film)*



*Great Wonders
of the World*



*The Orchestra
(Warner New Media)*



Aesop's Fables



*America Alive GULDisc
travel guide*



*LifeSaver2:
First-Aid Course*



*Curious George
Learns the Alphabet*



InPrint Art Library



*20,000 Leagues
Under the Sea*



Digital Video Library



*Indiana Jones
adventure game*



*Uncle Alex's
Guitar Tutor*

topic and interest, from business directories to cooking lessons, from nature programs to a street-by-street atlas of the United States. Only a fraction of the available CDs are shown here. New releases come out every week, and there are hundreds of titles in development. So if you don't have a CD-ROM drive in your computer, you're not just missing the fun. You're missing the future.

All you need

For PowerBook owners.

The single-speed, multi-session Apple[®] PowerCD player is the ultimate in portability. The PowerCD easily connects to Apple PowerBook[®] computers, any other Macintosh or even a TV.

For Windows owners.

With the CD Multimedia Kit for PCs, you can get going right away. And it exceeds Multimedia PC Level 2 specifications. It includes:

The AppleCD 300i. Our internal disc drive fits neatly inside a PC. You also get a sound card, software and cables—everything you'll need for full multimedia capabilities.

AppleDesign[®] Powered Speakers. For crisp, CD-quality sound.

A free CD package. Compton's Encyclopedia on CD, the Multimedia Starter CD and up to three more CDs, which you can select from over 20 of the top titles for Windows listed in our special brochure.

For Macintosh owners.

The AppleCD Multimedia Kit gets you off to a great start. It includes:

The AppleCD 300 disc drive. Just plug in this external drive, and you're ready to go.

AppleDesign[®] Powered Speakers. For true CD-quality sound.

A free CD package. Compton's Encyclopedia on CD, the Multimedia Starter CD and up to three other CDs—you choose from over 20 best-selling Macintosh titles listed in our special brochure.

Trial software. Our free Software Dispatch CD[®] lets you try out 70 different programs. You can purchase any of them over the phone—a code unlocks the program for immediate use.



The deals.

If you have a Macintosh[®], or a PC running Windows software, you can take advantage of great deals on premium multimedia bundles. Each of these bundles is valued at over \$1500,* yet the AppleCD[™] Multimedia Kit for Macintosh is only \$659* and the CD Multimedia Kit for PCs is just \$709.* To get your kit, or the portable PowerCD, call today.

is the drive.



**To get your AppleCD 300,
call 800-732-5151, ext. 100.**

The drive.


Recently, the AppleCD 300 disc drive was named *Macworld's* Editor's Choice for Overall Value. Why? This double-speed drive is significantly faster than many other CD-ROM drives available today, yet it's still quite affordably priced. At \$429*, the AppleCD 300 is a great deal. And to get it, all you have to do is call the phone number above.

*All prices are Manufacturer's Suggested Retail Prices as of 8/1/93. Reseller prices may vary.

If there's a computer in your future, make sure there's a future in your computer.



Integrated Apple CD-ROM.

From this point on, a computer without a CD-ROM drive won't allow you to take advantage of the best computing has to offer. So if you're thinking about a new computer, consider one of the many Macintosh® models with the AppleCD® 300i already built in. That's the easiest way to start exploring the vast array of CD titles available for Macintosh, and the many more to come. Call 800-732-5151, ext. 100, to locate an authorized Apple reseller, and stop in for a demonstration. With a CD-ROM drive inside it, you'll find that a new Macintosh delivers the most impactful kind of power. The power to be your best. Apple 

*All prices are Manufacturer's Suggested Retail Prices as of 8/1/93. Reseller prices may vary. © 1993 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Macintosh and The power to be your best are registered trademarks of Apple Computer, Inc. AppleCD, AppleDesign, PowerBook and Software Enrichment are trademarks of Apple Computer, Inc. PowerCD is a trademark of S.I. Inc. Dallas Texas. Third party product mentions are for informational purposes only and does not constitute an endorsement. This ad was created using Macintosh personal computers. 10/13/93/2A

LETTERS

the result is corruption and decay.

This was the first time I've read in detail about the new PowerPC chip and the computers that will use it. Dvorak's postulations about the potential future of Apple were almost positive. I was surprised and uplifted and closed the magazine with a feeling that maybe things weren't so bad. I find myself in a position I didn't think I'd be in: writing Mr. Dvorak to thank him for making my day.

James T. Pendergrast
New York, NY

What's in a Name?

In response to Jon Zilber's question in "To Tell the Truth" (August '93, page 25), I feel that MacUser has to cover the brave new world Apple is heading into. The Newton and PowerPC are going to be integral parts of the future of Apple and the Macintosh. We're on the edge of a new era in personal computing where personal digital assistants will figure heavily. The Newton is the first of many new technologies to come. I would like to be kept abreast of the developments in the PowerPC area too.

As for renaming MacUser, keep it the way it is. I don't think you can change the name fast enough to keep up with the changes we are going to see in the coming years.

Lee Martin
Houston, TX

Hard Knocks

I was very upset after reading "Working Away" (August '93, page 102), by Owen W. Linzmayer. The author singled out our software, QuickLink II, but because the article was a review of hardware, it was surprising that any editorial comment about software was made and that it was so outrageously negative.

The author's remarks dealt only with the look of QuickLink II. Granted, user interface is an important feature of a software product, but to the many fax-modem manufacturers, functionality is of paramount importance. The author also failed to mention that QuickLink II is the only truly integrated fax and data-communication application available. Another key feature not mentioned is that QuickLink II is the only software that can distinguish between an incoming fax and a data call.

We realize that there is room for improvement in QuickLink II, but it is upsetting for us to be smacked in the face

by your publication while you made the decision to ignore the majority of features that set QuickLink II apart from the competition.

William W. Smith, Jr.
President
Smith Micro Software, Inc.
Aliso Viejo, CA

My comments regarding QuickLink II were based on extensive testing and comparison with other programs. I found the documentation poor and the user interface confusing, but (contrary to your interpretation) the bulk of my criticism dealt specifically with functionality issues such as error handling, the inability to choose cover pages at print time, and the lack of call-progress notification. True, QuickLink II has some unique features, but these seem insignificant in light of the many shortcomings our report uncovered. Until Smith Micro Software addresses these issues, I stand by my original recommendation that users avoid QuickLink II. — OWL

In Control

There is an error in your review of In Control 2.0 (August '93, page 62). You state that "you can't have a linked document and In Control open at the same time." This simply is not true. You can have both open simultaneously. Our customers use this feature to launch a document directly from the to-do item, and they can switch back and forth between In Control and the linked item as they need.

Alan Albert
Vice President, Marketing
Attain
Somerville, MA

Corrections

Our review of ClickChange in the September '93 issue (Quick Clicks, page 105) incorrectly listed the company's toll-free number. Duplica Software's number is 800-626-9525.

In our review of Snooper 2.0 in the September '93 issue (Reviews, page 97), we listed the wrong price and test information for MacEKG. MacEKG costs \$150 and runs more than 250 tests.

The phone number listed for Radius (Reviews, October '93, page 51) should have been 408-434-1010. The number in the article is a company fax number.



Do You Have a Lot On Your Mind? Get IN CONTROL.

You have a weighty list of things you need to do. Some of them may even be in your calendar. But that little voice keeps nervously asking you—what about the rest of the things you need to get done?

IN CONTROL™ is the only program that helps you decide which tasks to do and automatically creates calendars and reminders to make sure you get them done. MacUser awarded it BEST ORGANIZATIONAL TOOL and says "you can't live without it." So don't just get a calendar, get a to-do list manager also.

The next time that little voice asks you what to do, you won't feel pressured, you'll feel In Control.

Special Holiday Offer
Free 30-day trial!

(only \$10 shipping/handling)

Call Today for Details!

800-925-5615



MacUser



MacWeek

ATTAIN

Attain Corporation 48 Grove Street Somerville, MA 02144
617-776-1110 x312 fax 617-776-1626

FROM THE ORIGINAL CREATORS OF FILEMAKER®

FileMaker is a registered trademark of Claris Corp.
CIRCLE 60 ON READER SERVICE CARD.





Only Asanté Puts The Power Of Ethernet In The Palm Of Your Hand.

Presenting the world's smallest and lightest SCSI-to-Ethernet adapter. Asanté™ is adding a whole new dimension



to high-speed Ethernet® networking for the Macintosh®. Introducing the Mini EN/SC™, the smallest and lightest SCSI-to-Ethernet adapter you can get your hands on.

Specially designed for the PowerBook® line, Asanté's new Mini EN/SC is so small and light – a mere 6 ounces – that it's a snap to carry. It's also the perfect space-saving solution for desktop Macs® without available slots for networking. For added flexibility, the Mini EN/SC comes with SCSI-to-Ethernet connecting cables for both PowerBooks and desktop Macs.

Thin and 10BaseT Ethernet at your fingertips. The plug-and-play simplicity of the new Mini EN/SC makes it

the easiest SCSI-to-Ethernet adapter to install, hands down. It's a powerful solution that puts Thin and/or 10BaseT connectivity at your fingertips.

Asanté also offers a 3-in-1 SCSI-to-Ethernet adapter, the EN/SC.

The Mini EN/SC is thoroughly tested before shipping and comes backed by the same 5-year warranty and technical support as our other award-winning adapters.

To find out how you can get your hands on the smallest and lightest SCSI-to-Ethernet adapter in the world, call Asanté today

at 800.662.9686,
extension 52.

ASANTÉ™
ALL THE RIGHT CONNECTIONS™


Resellers: Asanté products are available from Ingram Micro, Tech Data, Merisel and Gates F/A. Asanté Technologies, Inc., 821 Fox Lane, San Jose, CA 95131. Tel: (408) 435-8388.
© 1993 Asanté Technologies, Inc. All brand names and products are trademarks or registered trademarks of their respective holders.

CIRCLE 86 ON READER SERVICE CARD.

Keep It Simple, Apple

Apple loves to reorg. It reorgs divisions, it reorgs buildings, it reorgs executives — always for some important business reason. Now Apple's reorged the Mac product line — in the name of making it easier to choose a Mac. I'd be curious to hear what you think.

Just for fun, go to your local computer store and check out all the flavors of Macintosh from Apple. Then go to a mass merchandiser such as Sears and see if you can tell the difference between the Macs you find there and the ones at the computer store. What do you think your chances are of finding someone who actually knows the specs of all the various models? For that matter, do you know *anybody* who can even remember the names of all the machines Apple makes?

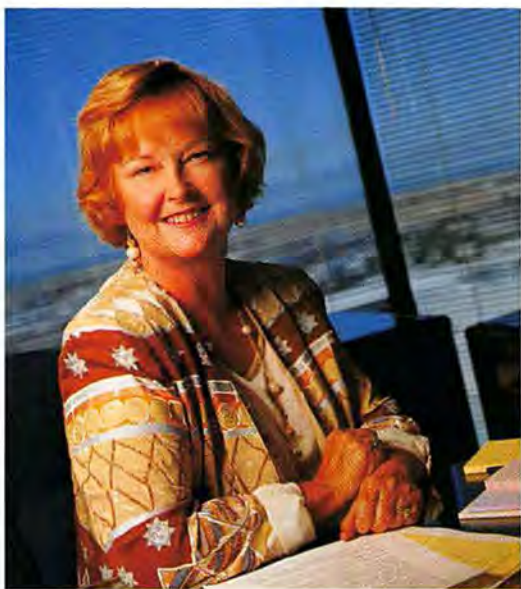
Sure, there's a positive side to the plethora of Mac models: Apple's got some kind of Mac that fits the needs of just about anyone — from entry-level users who don't want to know what RAM is (much less have to worry about how much of it they need) to business users who are looking for high-performance machines with built-in Ethernet. But as Apple has expanded its product line and reduced the cycle time between new versions of products, it has unintentionally created confusion by churning out similar products under different brand names.

Obviously, a lot has changed since the Mac debuted almost ten years ago.

One Size Fits All

When I bought my first Mac, I had no trouble deciding which features I wanted — there weren't any. You couldn't add memory or cards or a hard-disk drive. Unless you had a special wrench, you couldn't even open the box. And the Mac came with the best available software already installed. Although some computerists were skeptical, I was an instant convert. Having spent years using CP/M and DOS machines, the Mac was a dream come true — easy to set up and use. True plug 'n' play.

Nearly ten years later, the Mac is still



Apple has switched from reorging the company to reorging its Macs.

the easiest computer to set up and use. Buying one, however, is another story.

As you'll see in our cover stories in this issue, Apple has attempted to address this problem. The Mac product line now consists of Quadras, Performas, LCs, and PowerBooks. Period. Apple has dropped the name Centris, the LC line will be for the education market only, and the Classics are being phased out in the U.S. Apple is targeting the Quadras and the PowerBooks at business users and the Performas at the home market. Along with the name changes comes increased performance. The main difference among these branches of the product line is where they're sold: the business machines at resellers and the Performas at mass merchandisers.

Although I applaud Apple's effort to make choosing a Mac easier, I don't think the company's quite there yet. For one thing, I wish it would name products so you could figure out their basic configuration and instantly know the relative horsepower and storage capacity.

Then buyers could get down to the finer details, such as what software it comes with or whether it has an FPU or built-in Ethernet. I also think that regardless of which stores carry the products, people will still want to compare them to figure out the differences among them. And that's where *MacUser* comes in.

A New Mark for Macs

Readers trying to make sense of the new product line will be glad to see that we're introducing a suite of custom-developed benchmark tests called MacBench 1.0 (see "And Then There Were 4," page 92). MacBench tests measure the performance of the four main subsystems of the Mac: the processor, disk drive, video, and floating-point unit. The results indicate the overall speed ratings of these components for typical tasks. You'll be able to use the results of MacBench tests in conjunction with our traditional application-based test results, which measure how fast a specific real-world task runs. That way, you'll have both low-level and application tests to help you make your decisions.

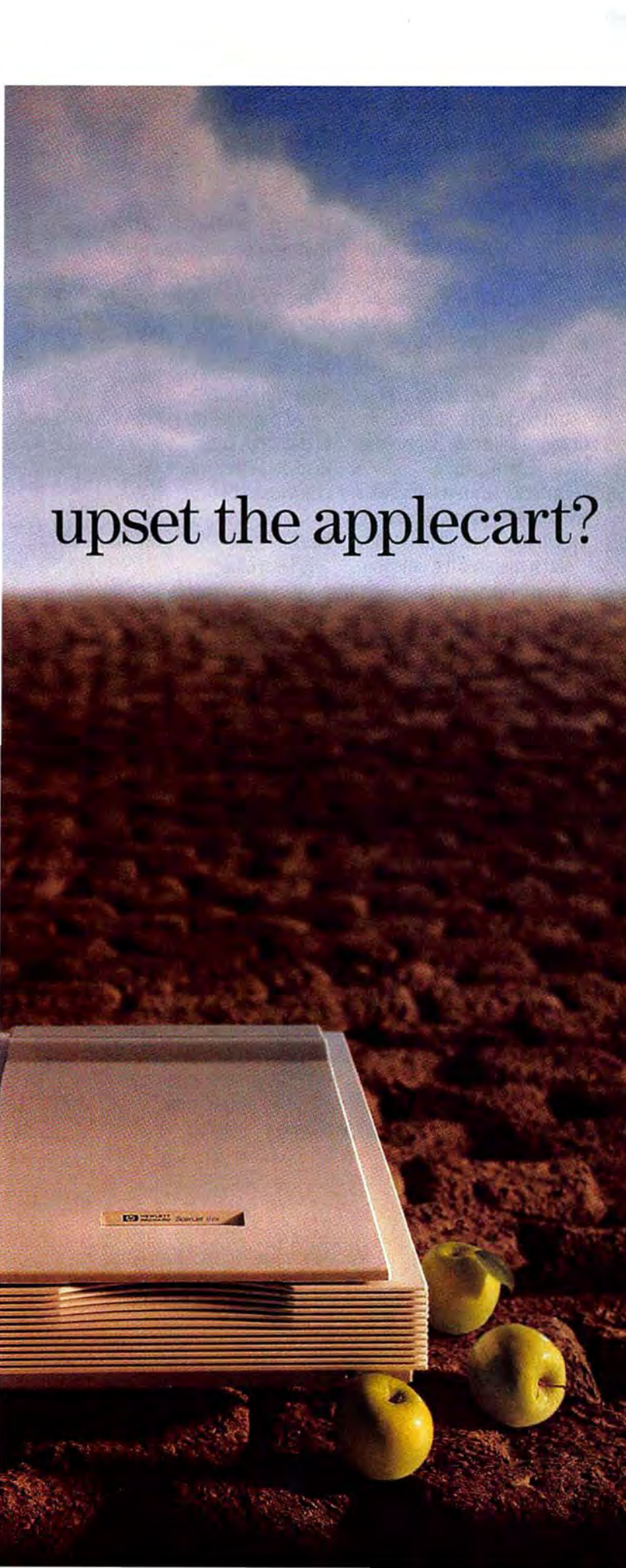
MacUser's main editorial mission is to test products and provide comparative information that helps you make buying decisions. Believe it or not, we spend more than 30,000 person-hours each year testing products for our stories, which means we must constantly develop newer and better ways to get the answers only testing can deliver.

MacBench, which was developed by the Ziff-Davis Benchmark Operation, in North Carolina, is only the newest element of our strategy for delivering data you can trust. We still have our own labs as well as the state-of-the-art ZD Labs across the street chock-full of interesting equipment for torture-testing products. So no matter how many Macs Apple brings to the table, we'll be able to tell you which one's the fastest or best suited to your needs and budget.

Just remember to write down the name of the model you want *before* you head to the store. ☐

A dramatic landscape photograph. The foreground is a dark, textured surface, possibly a field of low-lying vegetation or a rocky terrain, illuminated from below, creating a strong silhouette effect. A single, small, yellow-green apple with a stem and two leaves sits on the ground in the lower right foreground. The middle ground is a bright, horizontal line of light, suggesting a horizon or a body of water reflecting the sky. The sky is filled with soft, white clouds against a pale blue background.

How did the new HP ScanJet IIcx



upset the applecart?

By being the only Mac scanner
that handles text as well as it
handles graphics. **\$1,179**

Finally, there's a scanner that takes text as seriously as it does graphics. Hewlett-Packard introduces the HP ScanJet IIcx. The color scanner that brings scanning performance to a whole new level. And leaves the competition picking up the pieces.

The HP ScanJet IIcx offers the best text scanning in its class. Featuring HP AccuPage technology, which enhances third-party software, this new scanner deftly handles a wide range of documents. It accurately recognizes text in small point sizes and unusual fonts. Even text on colored backgrounds and in tables—documents that would send other Mac scanners scrambling. An optional document feeder makes it even more efficient.

With 1600-dpi enhanced resolution (400-dpi optical), the HP ScanJet IIcx scans graphics with unmatched clarity and accuracy. 24-bit color provides a palette of 16.7 million colors and 256 levels of gray. And to make sure that those colors stay true, this scanner supports the Apple ColorSync color matching system. Easy-to-use HP DeskScan software and Adobe's Photoshop™ LE image editing software come in the box. An optional transparency adapter scans photos, slides and transparencies. To save time, there's one-pass color scanning. And to simplify things, there's a TWAIN interface, which means you don't have to leave the application you're working in to scan.

These sophisticated features have not come at the expense of simple design. The HP ScanJet IIcx was made for the Mac from the ground up, giving you easy installation and trouble-free operation. All backed by HP's legendary quality and reliability. In the unlikely event that your HP ScanJet IIcx should require service, your one year warranty entitles you to a replacement scanner within 24 hours.

To learn more about the HP ScanJet IIcx scanner, call 1-800-SCANJET (1-800-722-6538), Ext. 7801.* Once you see what the HP ScanJet IIcx can do, everything else will look a little less polished.



**HEWLETT®
PACKARD**

By now, you probably wish your disk was twice as big, the Finder copied faster, backups weren't so tedious, and people would keep their noses out of your data.



It doesn't take very long to get spoiled, does it?

One day you sit down at your Mac, and those 80 megabytes of disk space you never dreamed you'd fill up aren't nearly enough.

And backing up your data by dragging folders to floppies has become, well, a drag.

Especially when you find yourself counting the minutes while the Finder copies all those files.

And remember the time you discovered the telltale signs—fan humming, monitor on, folders open—of somebody snooping around on your Mac?

Kinda left you wishing for some serious data security, didn't it?



Better pick up a MacPak™.

Because there's no better way to enhance your Performa™, Classic™, PowerBook™ or Quadra™.

And no better way to save money, either.

Like the five hundred dollars or so it costs to buy a bigger hard disk.

Buy MacPak instead, and you can let AutoDoubler™ double

your disk capacity by automatically compressing your files.

And that's just the start.

You can quickly back up your data with Fastback Express, the no-nonsense version of the world's bestseller.

And copy files up to five times faster than the Finder with CopyDoubler Lite™. (It deletes files even faster.)

To keep other people's noses out of your data, simply install DiskLock™ PB, pick a password and relax.

What could be easier?

How about launching your MacPak utilities—or any Fifth Generation utility for that matter—with our Launch Pad™?

All it takes is one click.

Then there's managing your files with DiskTools™. Organizing your life with our calendar. And crunching numbers with our calculators.

By now, you probably wish this ad was half as long, the phone was within reach, and you could dial 800-666-2904 to give MacPak a try, at no risk, for one whole year.

Guess what? You can.

AutoDoubler
Fastback Express
DiskLock PB
CopyDoubler Lite
DiskTools
Launch Pad
Calendar
Phone Pad
Calculators



FIFTH GENERATION SYSTEMS, INC

CIRCLE 105 ON READER SERVICE CARD.

Outside U.S. & Canada
call: (44) 494-442223

Don't Leave It to Goofus



With just a few simple techniques, you can pry great service and support out of any hardware or software company.

Any trip to the dentist offers the opportunity for at least one unbridled dose of pleasure. Sure, there's the chance to be strapped into a chair and submit to someone wearing a mask and rubber gloves who then inflicts pain, but that's a matter best left between you and your therapist.

No, the pleasure I had in mind was sitting in a vintage Naugahyde chair and poring over a big ol' stack of *Highlights for Children* magazines. The find-the-items-in-the-picture page never lets you down; the monthly rebus is always good for a solid hour of intense left-brain/right-brain concentration, I always find; and then there's the crème de la crème: Goofus and Gallant. You know, those one-page morality plays that demonstrate polite behavior through the example of two young boys. ("Gallant makes a point of always passing serving dishes to his left and using the proper fork; Goofus blows his nose on the tablecloth.") Leaving aside the moral question of giving kids names that *guarantee* that they'll have dodgeballs thrown right at their heads during gym class, it's a tremendously effective concept.

My hat's off. And my PowerBook is open, as I'm paying homage to (stealing) the concept for this month's column on How to Deal with a Company. Cultivating a good relationship with a software publisher or hardware manufacturer doesn't involve sucking up and offering to wash the president's car. It merely involves making it easy for a company to regard you as a valuable customer rather than a soul-sapping crank. By laying some important groundwork early on when life is all skittles and beer, the rails will be nicely greased when you're mired in a great joojoo flop situation. So when you break the shrink-wrap off that latest acquisition, keep some of these dos and don'ts in mind.

Do send in your registration card. From the not-making-this-up file: A longtime user of a major word processor sent me a heated piece of mail about the "incompetent and irresponsible" manner in which he'd been treated by the publisher. It seems that he'd lost a full day's use of the product when it crashed and burned right after he upgraded his Mac to System 7.1, and he was plenty steamed; there had been three maintenance upgrades to the product in the year since he purchased it, and he had received none of them.

You guessed it — the guy had never sent

in his registration card. Sorry to start off this list with something so obvious, but do keep in mind that unless you send in your registration card, a company has absolutely no way to get in touch with you. True, not every company automatically sends product updates to its customers (or even informs them that they're available), but it's better to establish that critical lifeline early on while it's fresh in your mind. However...

Don't give 'em more info than you have to. While we're on the subject of registration cards, don't give them anything except name, rank, and serial number. Very few companies are so bold as to actually ask for your salary bracket, but most ask about your current hardware, and many ask about your buying plans... pure Tabasco in the hands of a postal junketeer. Accept this as an amusing anecdote rather than hard news — it was reported to me by a disgruntled former employee and couldn't be verified — but supposedly one not-so-minor publisher uses registration cards solely to augment its commercial mailing list; as soon as the information has been entered into the mailing list, the cards are tossed, leaving no possible way to notify customers of product updates.

Do develop company contacts early on. This may sound like a naive, *Little House on the Prairie* sort of thing to do, but if you're planning to rely on a product in your day-to-day business, write the company a letter asking for all relevant fax and phone numbers. By knowing the name of the product manager and the general numbers for tech support, you'll save yourself a lot of time and trouble if things start to go kerflooey. You'll also get a good feel early on for what kind of support you can expect; companies that value customer support answer promptly and completely. And once you have all that info...

Do keep in contact. No kidding, this is the best advice you can get on the subject. Keeping in contact with the publisher singles you out as an Active User — someone who can give the publisher something more than the purchase price of the product — and can have spectacular results.

Explain your specific use of the product if it's the least bit distinctive. For instance, if your company has 100 registered copies and you're the person who has to keep all the users happy; if you're using it to manage dozens of lab procedures at a hospital; heck, if you're researching ways of understanding

ferret conversation, let the company know. If you represent a whole boatload of users, then the company can keep that boatload of users happy and informed by keeping you happy and informed; it also wants to sell another boatload of

upgrades and additional software, so this sort of letter grabs a product manager's attention. These people also tend to wag their tails when they pick up the scent of university, medical, and other specific markets. Beaucoup bucks are therein, so

they like the opportunity to make their products more attractive to certain key markets. Also mention any semioctot hardware you may be using; not everyone owns a pressure-sensitive graphics tablet, after all, and the publisher of a graphics program is likely to be keen to gather your input.

Don't be afraid to do some of the company's work for it. Most software companies are surprisingly receptive to ideas for new features or changes in the way their current product works. This is especially true of smaller, cozier publishers; they rely on their ability to put new features and concepts on the market faster than the monoliths above them and react warmly to well-thought-out suggestions. So if you get steamed every time a program throws a dialog box in your face when it should really let you set things up from a menu, drop a line; the adage "for every letter a customer sends, there are a hundred that aren't sent" is widely believed among publishers. Those of you who manage many users should be aware of your power too. When a publisher hears from a single user asking that a spreadsheet program be able to make calculations for video editing, the suggestion is noted; when someone representing 400 users makes a suggestion, an improvement is slated for the next major release.

The Payoff

What does all the above gain for you? It separates you from the pack, for starters. I've talked to software companies on the subject, and it's clear that users are separated into The Faceless Mass and The Activists and that The Activists — the ones who have been in contact and, incidentally, have something to offer the company — get better service. Calls are answered promptly; feedback is taken more seriously; and when it comes time to make up a list of users who'll receive prerelease copies of the latest and greatest version, well, they don't exactly draw registration cards out of a big rotating drum. Less practical but nonetheless nice is the chance to receive T-shirts; coffee mugs; and during the Boston and San Francisco Expos, invites to decent parties.

The Letter

Allow me to indulge myself and end this on a personal note. On an 800K disk in my office sits a two-page document



DOS[®], Windows[™] 3.1 and 486 Performance

Orange[®] PC
MS-DOS Coprocessor

Run Mac[®] and PC programs simultaneously
VGA graphics on a Mac monitor
16 times faster than SoftAT[™]*

The OrangePC NuBus[™] card is truly a technological breakthrough for running MS-DOS applications on the Macintosh. Combining the dramatic 486 performance and full VGA graphics in a window on a Mac monitor, it represents a state-of-the-art hardware solution. Unlike lazy DOS software emulators, OrangePC packs the power and features to get the job done for serious corporate users at a price which eliminates the DOS clone alternative (386 starts at \$899). OrangePC features: shared Mac/DOS files; runs DOS 6.0 and Windows 3.1 (enhanced and protected mode); one AT bus slot for compatible PC network connection; up to 16 MB on-board memory; PC parallel and serial port. So if you need 486 performance and Windows 3.1 on a single Mac based platform, call us for your own OrangePC.



© Orange Micro, Inc. 1993
* Call for benchmark details.
SoftAT is a registered trademark of Insignia Solutions

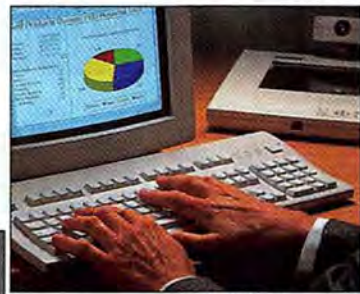
Orange Micro[®] Inc.

"13 Years of Innovation and Excellence"
1400 N. Lakeview Ave., Anaheim, CA 92807
(714) 779-2772

**Starts at
\$899**

CIRCLE 130 ON READER SERVICE CARD.

From Your Desktop...

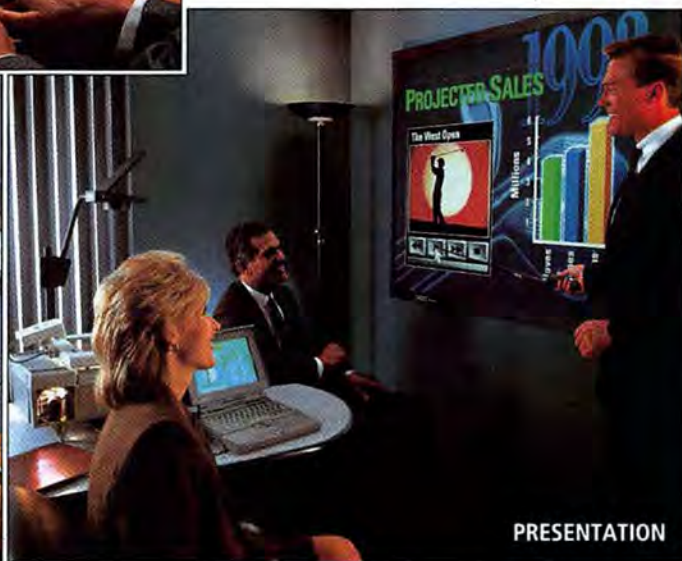


To The Workgroup...



FORMULATION

To The Boardroom...



PRESENTATION

Proxima® brings the power of your computer to the meeting room.



precisely the same images you see on your computer screen. In brilliant color. For all to see.

Desktop Projection™

Think of it as "Desktop Projection"—the link between your computer and the workgroup. Desktop Projection lets you focus everyone's attention on the large screen. A Desktop Projection solution allows the entire group to explore "what-if" scenarios, perform on-the-spot problem solving, or fine tune ideas in brainstorming sessions.

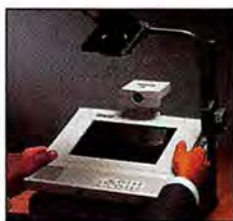
And once you have formulated your concepts in the workgroup, you can present them at meetings, training sessions, or boardroom presentations. You can even augment presentations with video by connecting a video source, such as a VCR or laserdisc, to a Proxima projection system.

DESKTOP
PROJECTION



It's all so easy!

Just plug the Proxima LCD projection product into the video port of your Apple® Macintosh® or IBM® PC or compatible. Your presentation, project management, spreadsheet, or multimedia software is now on-line—without the need for flip charts, 35-mm slides, or overhead transparencies.



Just set the panel on an overhead projector.

And with Proxima's unique Cyclops™ pointer system, you get all the capabilities of a cordless mouse—and more. Simply touch the wand to your projection screen, point and click to control your computer right at the projected image. With Cyclops, you will add an element of magic and excitement that will captivate your audience!

Whether your meeting is in a conference room, classroom, or auditorium, Proxima has a Desktop Projection solution to meet your needs. To find out more about Desktop Projection and how to run more effective meetings, call our toll free number today.

(800) 447-7694

PROXIMA®

Proxima Corporation 6610 Nancy Ridge Drive • San Diego, CA 92121-3297 • (619) 457-5500. In Europe: Horsterweg 24 • 6191 RX Beek • The Netherlands • +31 43 65 02 48
Proxima is a registered trademark and Cyclops and Desktop Projection are trademarks of Proxima Corporation. Other trademarks are the property of their respective owners.

CIRCLE 158 ON READER SERVICE CARD.

INTRODUCING FRAMEMAKER 4

We wrote & published, edited & organized & designed, formatted & indexed, cross-referenced & distributed the book on writing and publishing.

Writing is a breeze with our high-speed WYSIWYG word processor, which includes a spell checker and thesaurus.

Create custom colors with CMYK, RGB, HLS, and PANTONE® color palettes, and produce 4-color process or spot color separations.

Build complex documents easily using automatic hypertext markers, multichapter cross-referencing, running headers and footers, plus multiple indices and tables of contents.



Page layout tools enable rotated text and graphics, dashed and dotted lines, multiple columns, auto side heads, even portrait and landscape pages in the same document.

Conditional text lets you store or display multiple versions of a document in a single file.

Our advanced table editor lets you build multipage tables with unlimited paragraphs, straddled cells, rotated text, even graphics.

A sophisticated math editor lets you create and edit everything from simple arithmetic to calculus equations.

Create your own graphics with a full set of drawing tools, or import 24-bit color images.



Frame Technology presents the best way to write and publish demanding business and technical documents: Introducing new FrameMaker® 4. FrameMaker 4 dramatically increases your productivity because it automates much of the publishing process. Which makes it faster and easier to produce everything from simple business reports to complex multichapter manuals. Only one program handles it all, FrameMaker 4. Which means you don't have to switch back and forth between word processing, graphics, and page layout programs, and you won't lose any of your data or formatting. FrameMaker 4 is loaded with over 100 new features including context-sensitive help, automatic side heads, document compare, even ad hoc formatting. Best of all, you can share your FrameMaker 4 documents with your colleagues across the most popular hardware platforms. Including Windows, Macintosh, and X/Motif. So when you need to write, publish, design, edit — the works — make sure you use the one program that does it all: FrameMaker 4. For a free guide to writing and publishing, or information on our special upgrade offer, call 1-800-U4-FRAME, Ext. 947.



referred to by friends, reverently, as The Letter. The Letter is a devilishly cunning document I crafted back when I was an impoverished college student who nonetheless had a yen for hardware and software; if I changed no more than three sentences to suit the occasion, mailing The Letter to a company invariably resulted in that company's sending me free stuff. No lies, no begging, merely some well-chosen text that, when mailed to the correct parties, resulted in my receiving in excess of \$1,200 in free hardware; thousands more in free software;

**The Letter is the
source of
unspeakable power.
Let its existence
inspire you.**

and countless T-shirts, mugs, and jumpsuits. It even came within a single phone call of snagging me a free \$7,000 NeXT computer.

Now that I've turned pro, The Letter has been retired, but let its existence inspire you. Don't assume that just because you can't afford something, you can't have it. If you're a student, if you're volunteering your time on a project for a nonprofit institution, or if you're involved in something that a company might conclude ought to be encouraged, write an honest letter and ask for a donation. You will probably be surprised at how kind-hearted companies can be when given the opportunity. Software is generally easier to snag, but a key piece of hardware can often be borrowed for the duration of a project. If all else fails, the company might just allow you to purchase a product at a special "promotional" price. Again, it only costs you a stamp to find out.

And before any of you write in, no, The Letter is not available for distribution; it is the source of unspeakable power. But do feel free to write in, nonetheless, with questions, comments, or The Goods or just to conjecture about the next *Star Wars* trilogy. Hard copy comes to me at MacUser, 950 Tower Lane, 18th Floor, Foster City, CA 94404. Slam that e-mail to me at andyi@world.std.com (Internet), 72511,204 (CompuServe), andy (AppleLink), or andyi (America Online).

Yours: An unforgettable memory. Forever.



Sure, you got the bread.
But you forgot the milk.
You remembered the birthday.
But you forgot the darned gift.

Hey. You're only human. We all forget.
But what happens when your computer acts human? Forgets data. Hides things.

Doesn't matter why. You and your company's biz are in big trouble.

Unless you've had Retrospect on the job. Retrospect backs up automatically.

Whether it's one computer (Retrospect) or an entire network (Retrospect Remote), it efficiently turns itself on, backs up your data, then turns itself off.

Retrospect. An unforgettable solution you'll want to remember.

dantz
Retrospect®

Retrospect Remote®

To go forward, you must back up.



Dantz Development Corporation 4 Orinda Way Orinda CA 94563 510-253-3000

Now! 2.0 with every FWW tape drive. For info: 415-474-8055

CIRCLE 28 ON READER SERVICE CARD.

Run Your PowerBook for 5-9 Hours*

- Only 1/4" thick
- Just 1 1/2 lbs.
- Charges using the standard Apple AC adapter
- UL listed for safety
- Easy to use, convenient to carry
- 30-day money-back guarantee
- \$199.95 with ThinPack Utilities

VST ThinPack™, a high-density, maintenance-free battery for the PowerBook 100 thru 180c.

Now shipping with ThinPack Utilities, which enables your PowerBook to recognize the longer runtimes afforded by the VST ThinPack.

VST ThinPack™

Available through

MERISE L.

MacWAREHOUSE

Or call VST Power Systems, Inc. at (508) 287-4600

© 1993 VST Power Systems, Inc. ThinPack is a trademark of VST Power Systems, Inc. PowerBook is a trademark of Apple Computer, Inc.



* 3 to 4 hours on the 165c and 180c

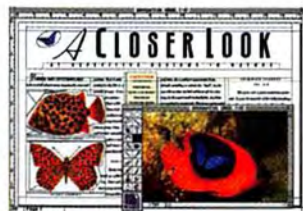
CIRCLE 32 ON READER SERVICE CARD.

What's a company like us do



What could Intel, the leading manufacturer of PC microprocessors, have to say to a Macintosh™ user? Surprisingly, a lot. Especially if you're one of the growing number of Mac users looking for software compatibility and better price/performance.

At Intel, we know computer users can get pretty attached to their software—you'd prefer to keep using it even if you buy a new PC. That's why we've always made sure our PC processors run yesterday's PC software as well as the latest



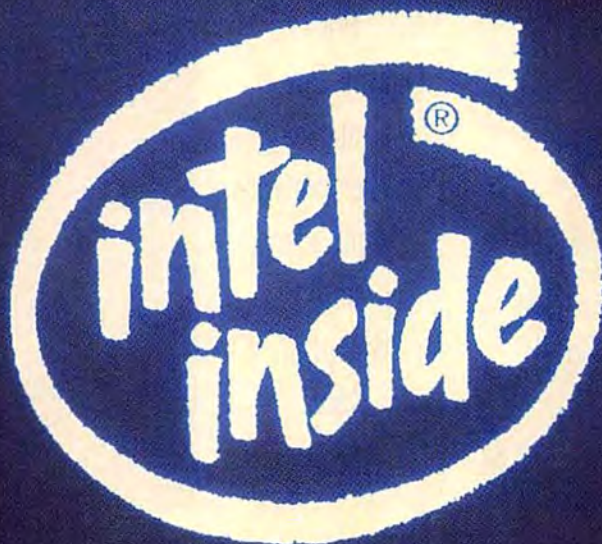
*This is a document created
on a Macintosh.*



*This is a document created
on an Intel-based PC.*

releases. And today, more software developers are writing new programs for Intel-based PCs than any other architecture.

And because every year our processors get faster, your programs will run faster. Thus, an application that runs on our speedy



ing in a magazine like this?

Intel486™ DX2 processor will perform even better on our new Pentium™ processor.

As for price/performance, we can offer you more for your money than Macintosh can. That's because hundreds of companies worldwide bring you computers based on Intel's processor technology.

Applications	Mac	Intel
Microsoft Office*	•	✓
ClarisWorks*	•	✓
QuarkXPress*	•	✓
Microsoft Excel*	•	✓
Microsoft Word*	•	✓
Adobe Photoshop*	•	✓
Adobe Illustrator*	•	✓
Quicken*	•	✓

*With an Intel-based PC,
you can still run all your favorite
Macintosh applications.*

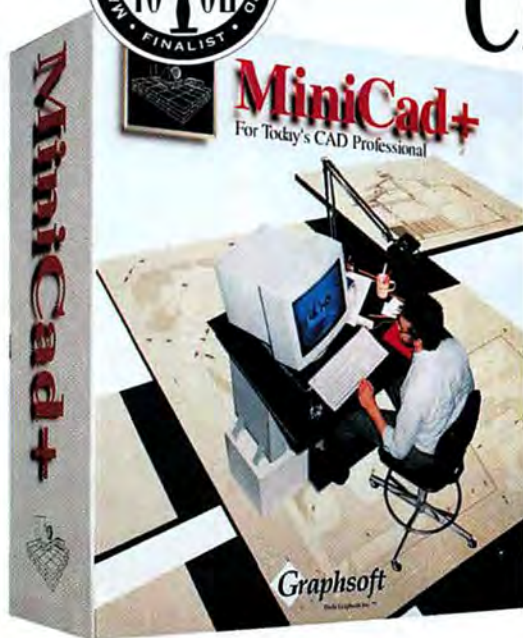
Now you may be wondering, how does knowing all this about Intel help you, a Macintosh user? Simple.

The more you know about Intel processors, the more you'll wish we were in your computer instead of just in this magazine.

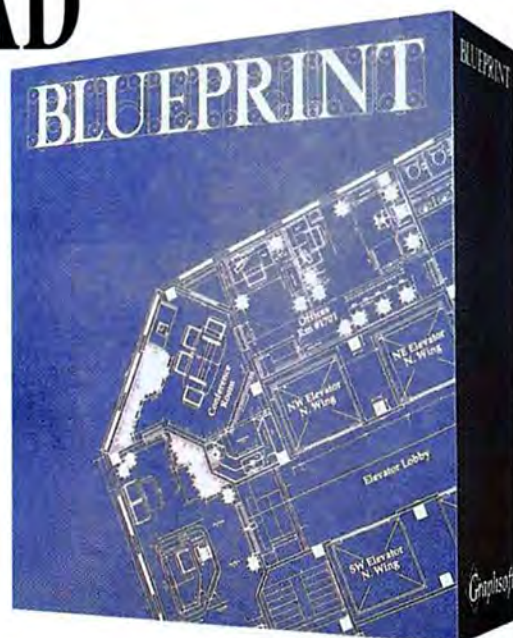
To learn more about what Intel compatibility and price/performance can mean to you, call 1-800-395-7009, extension 83.

intel®

Graphsoft Outruns Clarisc CAD



For
Quality, Power
and
Price/Performance
MiniCad+
and
Blueprint
Race
Ahead!



2D CAD:

- ☐ smart walls
- ☐ Smart Cursor for locating snaps
- ☐ advanced auto-dimensioning
- ☐ editable line styles
- ☐ pan by scroll bars or hand
- ☐ color by object or layer
- ☐ DXF translator - free
- ☐ unlimited layers
- ☐ global symbol editing
- ☐ on-line prompts
- ☐ unlimited drawing space
- ☐ pick-up and put-down attributes
- ☐ selection by properties
- ☐ auto-insert symbols in walls
- ☐ hierarchical symbol library
- ☐ add & subtract surfaces
- ☐ fractional feet and inches option

3D CAD:

- ☐ mechanical projections
- ☐ orthogonal or perspective views
- ☐ work in wire-frame or solid
- ☐ walkthrough and flyover tool
- ☐ create 3D view from floorplan
- ☐ sweeps, extrusions & meshes

Integrated Database/Spreadsheet:

- ☐ attach data to graphic objects
- ☐ export reports to text, merge, dif, & sylk
- ☐ familiar spreadsheet interface
- ☐ search or select by field value

Programmability:

- ☐ Over 300 powerful routines
- ☐ generate drawings automatically
- ☐ perform engineering analysis

- ☐ fillets
- ☐ editable fills
- ☐ beziers
- ☐ wall-join
- ☐ chamfers
- ☐ tolerancing
- ☐ unlimited saved views
- ☐ hatching
- ☐ polylines
- ☐ classes
- ☐ export EPSF
- ☐ free Clarisc CAD translator
- ☐ round wall caps
- ☐ edit inside groups
- ☐ scale by layer

MiniCad+4 \$ 795.00

2D CAD:

- ☐ smart walls
- ☐ Graphic Guide for locating snaps
- ☐ advanced auto-dimensioning
- ☐ editable line styles
- ☐ pan by scroll bars
- ☐ color by object only
- ☐ DXF translator - extra charge
- ☐ unlimited layers

3D CAD:

none

Integrated Database/Spreadsheet:

none

Programmability:

none

Clarisc CAD \$ 899.00

2D CAD:

- ☐ smart walls
- ☐ Smart Cursor for locating snaps
- ☐ advanced auto-dimensioning
- ☐ editable line styles
- ☐ pan by scroll bars or hand
- ☐ color by object or layer
- ☐ DXF translator - free
- ☐ unlimited layers
- ☐ global symbol editing
- ☐ polylines
- ☐ unlimited drawing space
- ☐ file compatible with MiniCad+
- ☐ fractional feet & inches option
- ☐ auto-insert symbols in walls
- ☐ hierarchical symbol library
- ☐ add & subtract surfaces
- ☐ pick-up and put-down attributes

- ☐ fillets
- ☐ editable fills
- ☐ beziers
- ☐ wall-join
- ☐ chamfers
- ☐ tolerancing
- ☐ unlimited saved views
- ☐ hatching
- ☐ on-line prompts
- ☐ export EPSF
- ☐ scale by layer
- ☐ classes
- ☐ round wall caps
- ☐ edit inside groups

Blueprint 4 \$ 295.00

Graphsoft wins races by aggressive product improvement year after year. MiniCad+ was the first CAD program on the Macintosh. Since then, our R&D department has never stopped working on MiniCad+ and Blueprint. Graphsoft customers can rely on getting significant upgrades at a reasonable cost which support current technology, new operating systems, and evolving user needs. We've won awards worldwide, and are the top selling Macintosh CAD program in quality-conscious Japan. Our technical support is staffed by professionals who know drafting and design, not just computers. We stand behind our line of products with a 30-day money-back guarantee. Send for a video and trial diskette for MiniCad+ or a tutorial and trial diskette for Blueprint, \$19 each. MiniCad+ and Blueprint, the answers you've been looking for.



1988 MacWorld
Award
-Australian-
MiniCad+



1989 MacWorld
World Class Award
-US-
MiniCad+



1990 MacUser
Eddy Award
-US-
MiniCad+



1992 MacWorld
Editors Choice Award
-US-
Blueprint



1992 MacWorld
Best CAD Award
-Switzerland-
MiniCad+



Also from Graphsoft Inc.

Azimuth

The ultimate map creation tool including 9 cartographic projections. Used by U.S. News & World Report.
\$395.00



10270 Old Columbia Road, Suite 100, Columbia MD. 21046 Phone: 410-290-5114 Fax: 410-290-8050

Diehl Graphsoft Inc.
Graphsoft
The Macintosh CAD People

Also from Graphsoft Inc.

ContoursPro

Make high-precision survey maps with accuracy and ease. Exports DXF to AutoCAD™ or modeller of choice.

"Recommended" says Cadalyst!

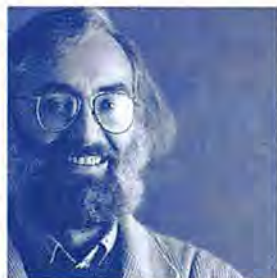
\$495.00



© 1992 Diehl Graphsoft Inc. All rights reserved. MiniCad+, Blueprint, Azimuth, ContoursPro and Smart Cursor are trademarks of Diehl Graphsoft Inc. Clarisc CAD and Graphic Guide is a trademark of Clarisc Corp. All other brand and product names are trademarks of their respective holders.

CIRCLE 108 ON READER SERVICE CARD.

The Ten-Year Track



The next decade looks like déjà vu all over again for Apple. But looks can be deceiving.

A colleague of mine said of a recent development at Apple that "it sounds like 1984 all over again." I disagree. History does stutter, but some apparent repetitions are only apparent. Here's why 1994 won't be like 1984:

As 1984 approached, Apple's new president characterized the company's target customer as "probably under 40 — 35 and younger, down into the teens. People who... are willing to make the investment in time and money... and really get excited about it... people who really want to be on the frontier, on the leading edge, of what's going on..."

Going into 1994, that description sounds as if it would do nicely for the sort of technophile who might want to purchase a Newton MessagePad.

But the similarity is misleading. The customer Apple most wanted to attract in 1984 fit a different description. Apple desperately sought to nab the Fortune 500 buyer, the typical IBM customer, the kind it characterized as an expressionless gray drone in that memorable Super Bowl Mac commercial. And it was the new computer, the Macintosh, that would land the fish, through an innovative plan called the Macintosh Office.

In the '90s, the innovative plan to hook the Fortune 500 buyers was called the Enterprise Systems Division.

See? Different.

The New Machine

As 1984 dawned, Apple released the Macintosh, its long-awaited new machine based on a hot microprocessor from Motorola. Software for the new machine was scarce at first, but someone had come up with an emulator that let the Mac run software written for Apple's bread-and-butter computer, the Apple II. Sadly, the emulator is remembered today only by computer-history buffs.

In 1994, Apple will release its PowerPC Mac line, the long-awaited new machines based on a hot microprocessor from Motorola. Native-mode software is expected to be scarce at first, but the machines will include an emulation mode capable of running software written for Apple's current bread-and-butter computer, the Mac. The emulation mode will be....

But again, these similarities are misleading. The initial PowerPC machines will be called PowerPC Macs. The original Mac

wasn't called the Macintosh Apple II, was it? Different.

Despite that Super Bowl commercial, in which IBM was cast as the evil Big Brother from George Orwell's *1984*, Apple's perception of IBM was as more friend than foe. When IBM entered the personal-computer fray, Apple welcomed Big Blue with a full-page ad in *The Wall Street Journal*, hailing IBM as a legitimizer of the industry.

In 1994, IBM will again be more friend than foe, but it will be because Apple and IBM are partners in a whole portfolio of enterprises. Same attitude, sure, but a different reason.

As 1984 wore on, Mac sales fell short of the somewhat exuberant projections of the company's visionary CEO. The stock went into a nosedive, and amid fears of a buyout, Apple went into radical-reorg mode. The visionary CEO, Steve Jobs, was suddenly supplanted by president John Sculley, a "real manager" in the eyes of the board.

Maybe you think this sounds like a report of current events, in which slowing sales, deep-diving stock prices, and buyout rumors presaged the latest radical reorg and the replacement of the visionary CEO by the president, regarded as the "real manager" during the preceding year. This time, of course, John Sculley played the visionary CEO.

But any student of Apple history knows that this is not a startling parallel; it's just business as usual in *The Company Where Reorganization Is Job One*. Besides, the 1984 debacle actually took place in 1985, and the 1994 one took place in 1993. No parallel at all.

Ultimately, Apple realized one unexpected and undesirable legacy of the policies of 1984: the Apple II backlash. It wasn't just the difficulty of selling computers that the company's every action and pronouncement said were dead meat. In fact, Apple II customers seemed remarkably thick-skinned and went on buying the things by the bushel. But the employees who were building the company's only profit-producing computer were miffed at not getting the attention, the perks, and the money the Mac-division people were getting. In response to this awkward situation, Apple execs came up with the slogan, "Apple II forever!"

The year 1994 will be entirely different. I predict the slogan will be, "It's still a Mac! Really!"



*\$1.95 shipping & handling via US Mail

**Save 5% on
650 Megabytes of
best-selling software
from more than
70 publishers...**

Call the Mac Zone NOW! to order the future of software purchasing!

A software library of over 150 products – on one CD

that lets you try it BEFORE you buy it, then own it instantly!

**EDUCATION/ENTERTAINMENT,
BUSINESS, GRAPHICS, UTILITIES**

Painter 2.0	Jam Session	Stuff It
Photoshop 2.5	Lemmings	Help
Illustrator 5.0	Yearn to Learn	Times Two
Camera man	Insanity	Sam
Norton Utilities	Monopoly	Typestry
After Dark	Family of Fire	Ofoto 2.0

1 FIND IT

Use the Browser to find software applications on your Instant Access CD.

2 TRY IT

Try the software demonstrations, explore your options, and choose the application that's right for you.

3 BUY IT

Call the special number for The Mac Zone Instant Access CD™ and charge your software to your choice of credit card. Use the 13-digit code we'll give you to unlock your software – then own it and use it instantly! Manuals and other documentation will be delivered by overnight carrier.

To Order, Call the Mac Zone Instant Access CD™ Center 1-800-684-8080

Stacker™

- ▶ Double your disk capacity with Stacker's new and innovative disk driver-level compression technology
- ▶ Compress all your data including databases and the system folder

\$68⁹⁸



No controls or settings needed. Forget the long delays when you launch your favorite programs. Stac's patented LZS compression is trusted by 4 million users worldwide. Supports removables, disk partitions, and one-step uninstall. Stac Electronics #06465

**More After Dark
(M.A.D.) &
After Dark
— Bundle**

Save your screen from the damage of phosphor burn-in. After Dark, one of the finest screen saver collections available for the Mac, comes with over 30 displays, sound, password protection and message displays. More After Dark comes with over 25 incredible new additions for After Dark. It features contest winners Mowin' Man, Tunnel, GraphStat and beautiful new Fish! Berkeley Systems #04046
#02785 After Dark 2.0V \$27.98
#04053 More After Dark Vol. 1 \$22.98



\$38⁹⁸



**Aldus
SuperPaint 3.5**

\$94⁹⁸

- ▶ New plug-in tools and an expanded selection of templates
 - ▶ Pressure sensitivity/tilt sensitivity support (Wacom and Calcomp)
- Aldus SuperPaint 3.5 combines the best painting and drawing features into one, easy-to-use, affordable graphics program. Aldus #04190

FREE!
Pizza Hut coupon
in each box.
Value \$10.00

**Times
Two 2.0**

NEW!
VERSION
x2

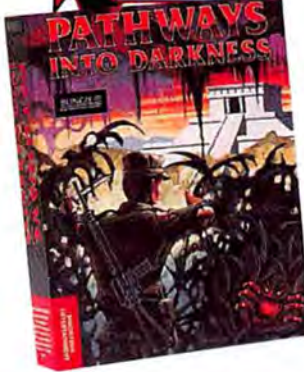


\$88⁹⁸

"No degradation in speed or performance, and TimesTwo is 100% compatible with every application that I could throw at it."
Craig Crossman,
Nationally Syndicated
Columnist and Radio Host.

A one-time installation actually expands your disk rather than compressing files, converting your disk to twice its original size in minutes, leaving all your data unchanged. If you own DiskDoubler, or AutoDoubler you are entitled to the Competitive Upgrade! Call for details. Golden Triangle #06579

NEW!
PRODUCT



Pathways Into Darkness

- ▶ A major advancement in game technology
- ▶ 3-D screen environment

\$38⁹⁸

An important advancement in Macintosh games! It's the first Mac game to utilize continuous motion, texture-mapped 3-D graphics. It's the closest thing to virtual reality without a helmet! This game is so realistic you can almost feel the heat when a screaming fireball, hurled from a ravenous gas beast, whips by your head!
Bungie Software # 99238

CIRCLE 135 ON READER SERVICE CARD.

Call Your Catalog SuperStore

The Mac Zone
Your Catalog SuperStore



Virtus VR

Where imagination meets reality...

- > Makes virtual reality on your Mac fast, easy and fun
- > Includes texture mapping for incredible realism

Virtus VR lets you experience the world of virtual reality on your desktop. You won't just be viewing worlds, it will feel like you are actually moving through them, experiencing space actively. It comes with its own set of 3D worlds: take an undersea odyssey or live the drama of JFK's motorcade passing through the streets of Dallas. You control the action like a flight simulator. Virtus is powerful, easy to learn and simple to use. Meet the future, meet Virtus VR. Virtus Corporation #99515



Targus Leather Notebook Case \$99.98

This new case from TARGUS is made of full-grain leather to make it comfortable and durable, and it's priced to make it affordable. It features a 15"x11"x2.5" padded computer section, separate compartments for files, documents, disks, pens, business cards and other accessories. TARGUS #06610

#06023 Targus Notepad-black\$35.98

Procom Multimedia Bundle

- ◆ 16-bit sound board
- ◆ 200 ms access time
- ◆ Seven CD-ROM titles
- ◆ High quality audio power
- ◆ World's fastest double-speed SCSI drive
- ◆ The complete multimedia starter kit



This exciting Procom Multimedia Bundle will make your Mac come alive! It comes with everything you need to start exploring the revolutionary world of multimedia: internal CD-ROM drive, speakers, sound board, installation software disk and instruction manual. Procom Technology #99879

PhotoFlash \$129.98

- > See your photos before you open them
- > FREE library of electronic photos



PhotoFlash can make your PageMaker and QuarkXPress documents come alive! You get incredibly fast and direct Photo CD access and a library of ready-to-use (or customize) electronic photos. Plus, PhotoFlash does it all with a fraction of the memory normally needed for such impressive images! Storm Technology #97854

A new level of realism



\$36.98

Sim City 2000

- > 3 dimensional views, at 3 levels
- > More power plants, transport options and disasters!
- > Great fun for kids of all ages

More buildings, more details, more tools, more art, more depth and more realism. It's the closest thing to running a modern city, without being elected. MAXIS #98222

Datebook Pro TouchBASE Pro Bundle w/Quicken

\$94.98

SAVE \$39.98

The DateBook Pro and TouchBase Pro Bundle combines contacts, calendars, appointments, to do lists, and alarms to help you stay organized. A built-in letter writer lets you create personalized letters instantly. And, you can print in all the popular daily planner formats. Best of all, DateBook Pro and TouchBase Pro are completely integrated. Aldus Corporation #06963



Lotus 1-2-3 comp upgrade

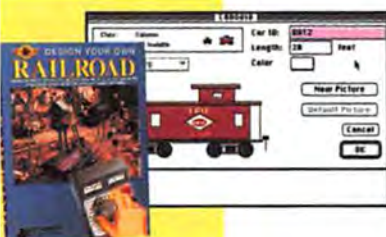
Follow the leader!

- > Sums without typing formulas
- > Play QuickTime movies
- > Complete file sharing



\$92.98

It's powerful, easy to use and designed exclusively for the Macintosh. It allows you to customize your desktop to fit your work style. Upgrade today and get Lotus 1-2-3, Snooper 2.0 and DiskLock 2.1 at this enticing upgrade price. To qualify, send us the first page from either the user manual of your competing spreadsheet software product or from the user manual of a previous 123 version. Lotus #00518 #00507 Lotus 123 1.1 for Mac.....\$278.98



Design Your Own Railroad \$44.98

Better than a model railroad in your basement! With Design Your Own Railroad you can design precision, to-scale layouts (HO, N, O, Z, S, I, or a custom scale) Use the drawing tool to create scenery, depots, even design your own trains. Abacadata #06858

PLEASE USE THIS CODE TO RECEIVE THESE SPECIAL PRICES
31201

TO ORDER JUST CALL:
OR FAX: 1-206-881-3421
INTERNATIONAL CALL: 1-206-883-3088

1-800-436-8000

The Mac Zone
Your Catalog SuperStore

GREAT HOLIDAY GIFTS for Family and Friends

SOFTWARE TOP 50

02648	4th Dimension	\$598.98
06231	ACT! for Mac	\$164.98
99491	Adobe Illustrator 5.0	\$364.98
05808	Adobe Illustrator Upgr	\$139.98
99496	Adobe Illustrator 5.0	
	CD Upgr	\$188.98
13021	Adobe Acrobat Starter Kit	\$668.98
06332	Adobe Super ATM	\$88.98
05969	Adobe Mac Value Pak	\$38.98
00333	Aldus FreeHand 3.1	\$393.98
06666	Aldus IntelliDraw	
	Competitive Upgrade	\$94.98
04573	Aldus PageMaker 5.0	\$548.98
99605	Aldus PageMaker 5.0	
	Competitive Upgrade	\$188.98
00346	Aldus Persuasion 2.1	\$318.98
04190	Aldus SuperPaint 3.5	\$98.98
00803	Canvas 3.5	\$258.98
04466	ClarisWorks	\$196.98
04180	DesignCAD 2D/3D	\$154.98
05478	FileMaker Pro 2.0	\$268.98
00665	Fractal Design Painter 2.0	\$274.98
03582	FrameMaker 3.0	\$494.98
04949	In Control 2.0	\$85.98
00588	Inspiration 4.0	\$167.98
00518	Lotus 1-2-3 Comp Upgr	\$98.98
04073	MacDraw Pro 1.5	\$274.98
06840	MacP&L	\$168.98
04140	MacProject Pro	\$398.98
03540	MiniCAD Plus 4	\$594.98
04046	More After Dark Bndl 2.0	\$38.98
00227	MS Excel 4.0	\$294.98
04545	MS Excel Ver. Upgr 4.0	\$118.98
02581	MS FoxBase+	
	Mac 2.01 Sngl	\$328.98
00427	MS Office 3.0	\$474.98
01220	MS PowerPoint 3.0	\$328.98
06299	MS PowerPoint 3.0 Upgr	\$124.98
04161	MS Project for the Mac 3.0	\$444.98
04898	MS Word 5.1	\$294.98
00567	MS Works 3.0	\$158.98
04720	Nolos Living Trust	\$43.98
04890	Norton Utilities 2.0	\$94.98
00642	PowerTrack 2.0	\$94.98
00853	Quick Art Dix CD-ROM	\$218.98
04230	QuickDraw 4.0	\$39.98
00116	Sam 3.5	\$64.98
04768	SoftPC Professional 3.1	\$198.98
06579	TimesTen	\$88.98
03972	WordPerfect 2.1	\$124.98

Best of the Rest

01871	Aatrix Payroll	\$108.98
03664	Access PC 2.0	\$59.98
06263	Adobe Dimensions	\$128.98
04670	Adobe Premiere 3.0	\$428.98
05702	Adobe Premiere 3.0 Upgr	\$124.98
06319	Aldus Fetch	\$188.98
05493	Aldus Personal Press 2.0	\$98.98
05379	Algebra I Homework Tutor	\$48.98

06297	Apple Font Pack	\$68.98
05431	Apple QuickTime Starter Kit	\$104.98
05475	AppleShare 3.0.1 Server	\$998.98
06298	AppleTalk Remote Access	\$158.98
06296	AtEase	\$48.98
06850	Auto and Disk Doubler Bndl	\$84.98
04830	BluePrint 4.0	\$218.98
06209	Cachet 1.02	\$298.98
00699	Claris Resolve Comp. Upgr	\$98.98
00203	Crickit Graph III 1.5	\$93.98
04805	DeltaGraph Pro 3.0	\$78.98
03609	Design Your Own Home	
	Architecture	\$48.98
03515	DisKDouble	\$46.98
04049	Effects Specialist 2.0	\$94.98
06166	Essentials for PowerBook 1.1	\$88.98
06394	Falcon MC	\$33.98
05964	Fluent Laser Fonts Lib 2.0	\$64.98
00258	FolderBlt 1.02	\$71.98
04557	Fotographer 4.0	\$258.98
04497	Hayes SmartCom II 3.4	\$83.98
04302	HyperCard 1.1 Dev Kit	\$138.98
00815	Infini-D 2.5	\$698.98
06887	Kodak Photo CD	
	Access Software	\$34.98
06668	Kai's Power Tools	\$89.98
01159	Kay Flow 3.7	\$214.98
05432	Mac PC Exchange	\$68.98
04916	MacLink + PC 7.0	
	w/ Cable	\$129.98
00839	Macromedia Director 3.1.3	\$798.98
00838	Macromedia Three-D 1.2	\$998.98
06310	Macromed	\$998.98
03481	MacTools 2.0	\$99.98
05899	Magnet 1.0	\$49.98
05992	Millies Math House	\$32.98
00577	Miracle Piano	\$348.98
99506	Morph 2.0	\$164.98
04293	MS Flight Simulator 4.0	\$41.98
04712	MYOB for Mac 3.0	\$107.98
00580	Now Up to Date 2.0	\$64.98
04191	Now Utilities 4.0	\$83.98
00657	Ofoto 2.0	\$268.98
04806	Org Plus for Mac 1.0	\$124.98
02594	Peachtree Acctg for Mac	\$118.98
05668	Pixar Typewrite 1.1	\$186.98
05690	PowerMerge	\$74.98
04769	Publish It Easy 3.0	\$112.98
03771	Quick Keys	\$94.98
02586	Retrospect 2.0	\$146.98
05984	ReUnion-Family Tree	\$114.98
06157	Sketcher	\$93.98
04541	SoftPC 3.1	\$98.98
06715	SoftPC with Windows	\$298.98
06592	Square One 1.5	\$44.98
05934	Star Trek:	
	The Screen Saver	\$27.98
04088	Stratavision 3D 2.6	\$628.98
05827	StuffIt Deluxe 3.0	\$65.98
04776	Stufface II 2.1	\$49.98
05679	Super 7 Utilities	\$62.98

05433	System 7.1	
	Personal Upgr Kit	\$78.98
04178	Think Pascal 4.0	\$164.98
04066	Think Reference 2.0	\$88.98
04347	TypeStyle 2.0 w/ATM	\$124.98
05523	Userland Frontier 2.0	\$184.98
00641	Write Now 3.0	
	w/Correct Grammar	\$42.98

Top 50

06513	A.E. DataLink	
	PowerBook 160, 180	\$499.98
04956	A.E. Plus Drive	
	1.44/800K FD	\$298.98
05998	Adv. Gravis MouseStick II	\$68.98
05628	Axon SerialSwitching Device	\$98.98
06654	DayStar 33MHz Turbo 040	
	For Mac CI & SI	\$1,438.00
04322	DayStar Universal PowerCache	
	50MHz / FPU	\$898.98
05684	Global Village	
	PowerPort Gold	\$398.98
06267	Global Village	
	TelePort Gold	\$319.98
05176	Kensington TurboMouse	
	4 Trackball	\$110.98
06251	Microtek Scanmaker II	\$898.98
06252	Microtek	
	Scanmaker II KE	\$1,198.00
05849	NEC CD Express Mac	
	W/ CDR 15	\$349.98
06722	NEC Multisync CDR 74-1	\$636.98
06011	NEC SilentWriter M95F	\$1,349.00
06215	Performant 105MB Ext	\$358.98
06222	Performant 105MB Int	\$216.98
99322	Performant 14.4 Ext	
	Fax/Modem	\$144.98
06575	Performant 24 / 96 SR	\$119.98
02181	PLI Infinity 40 Turbo IID	\$525.98
06547	PLI Infinity 88 / R/W 44	\$668.98
00182	PLI Infinity 88 Turbo IID	\$648.98
04698	PLI Infinity Opt Sony	
	3.5 128MB	\$1,549.00
06546	PLI Toshiba CD ROM Drive	
	Multisession	\$699.98
06022	PowerBook	
	Battery 140/170	\$59.98
00062	Prometheus Promodem	
	144 Ext.	\$196.98
06552	Radius Precision	
	Color Pivot	\$998.98
05250	Radius Rocket 33	\$1,588.00
05650	Radius VideoVision	\$2,098.00
05653	SIMMS 1MBx8-80ms 2 Pak	\$88.98
05655	SIMMS 2MBx8-80ms 2 Pak	\$156.98
06729	SIMMS 4MB-70ns 72 Pin	\$158.98
05656	SIMMS 4MBx8-80ms 2 Pak	\$318.98
05393	SIMMS 6MB PowerBook	
	140, 170	\$278.98
06756	SIMMS 8MB - 60ns 72 Pin	\$368.98
06755	SIMMS 8MB - 70ns 72 Pin	\$318.98

06692	SIMMS 10MB PowerBook	
	160, 180	\$498.98
06697	SIMMS 16MBx8 - 70ns	
	Low-profile	\$2,636.00
05654	SIMMS 4MBx8-80ms	
	4 Pak	\$636.98
05117	SuprMac Spectrum/24	
	Series IV	\$872.98
05123	SuperMatch 17	
	Multimode Color	\$999.98
06100	SuperMatch 17 T	
	Trinitron Color Display	\$1,149.00
98851	SuperMatch 20	
	Color Display Plus	\$1,798.00
00413	SupraFaxModem	
	V.32BIS w/ Sft Cable	\$239.98
00414	SupraFaxModem	
	V.32BIS w/ Sft Cable	\$212.98
02183	Syquest 44MB Cartridge	
	Unformatted	\$64.98
00183	Syquest 88MB Cartridge	
	Unformatted	\$106.98
04096	TI PS 17 MicroLaser	\$119.98
06904	Umax UC 840 Scanner	
	w/ Photoshop 2.5	\$1,444.00
06593	Wacom ArtZ	\$327.98

Best of the Rest

05354	A.E. Full Cycle PowerBook	
	Battery Charger	\$104.98
05689	Altair ACS300 Speaker System	
	w/ Sub WFR	\$298.98
00847	Asante EN/SC	\$328.98
03642	Asante MC+11ET64 for Mac II	
	Performa 600 TK/10T	\$155.98
00511	Asante MC68K for Mac II	
	Performa 600 TN/TK/10T	\$218.98
01584	Datadesk Mac 101E	
	Keyboard	\$125.98
00321	Dayna EtherPrint	
	Plus 4 Dev	\$449.98
00322	Dayna EtherPrint T Plus 4	
	Dev EP421	\$449.98
06655	DayStar 25MHz Turbo	
	040 for Mac CI & SI	\$1,189.00
06478	DayStar 33MHz Turbo 040 for	
	Mac II, Ix, Ix, SE/30	\$1,438.00
06482	DayStar Charger	\$867.98
04634	DayStar Universal PowerCache	
	33MHz / FPU	\$498.98
04320	DayStar Universal PowerCache	
	50MHz / FPU	\$678.98
04321	DayStar Universal PowerCache	
	50MHz	\$768.98
04739	Farallon 24 Port Star Controller	
	PN377-1	\$1,298.00
00832	Farallon PhoneNet DIN	
	8 PN308	\$31.98
99307	Global Village	
	TelePort Bronze II	\$94.98
06266	Global Village	
	TelePort Silver	\$317.98

09916	Iomega Bernoulli 90MB	
	Cartridge 3-Pack	\$43.98
05177	Kensington Notebook	
	Keypad	\$7.98
04690	Kensington Notebook Traveler	
	Deluxe Case	\$7.98
06512	Kensington Notebook Traveler	
	Executive	\$1.98
02813	Keytronic Mac Pro 105 Plus	
	Keyboard	\$13.98
05851	Logitech Fotoman	\$63.98
04258	Logitech MouseMan	\$7.98
02561	Logitech Scanman Mod 32	
	Digital Darkroom	\$29.98
06280	Lyte Laser	\$9.98
06789	Helio Music!	\$29.98
99801	NEC MultiSync	
	15 Mir 3FGE	\$62.98
99990	NEC MultiSync 17"	
	Mir 5FGE	\$118.98
05521	Pantone Process Color	
	Imaging Guide 1000	\$6.98
06216	Performant 210MB Ext	\$52.98
06587	Performant PowerBook 14.4	
	Fax/Modem Int	\$28.98
05813	PLI DAT 3.5 Gig w/Built-in	
	compress for 8 Gigs	\$1,609.98
04817	PLI Infinity Optical 3.5	
	Ext 21MB	\$42.98
05621	PLI Infinity Max Optical	\$374.98
00907	Prometheus	
	Home Office Ext	\$12.98
05496	Radius Precision Color	
	24XP #0380	\$53.98
06717	Radius Video Vision	
	#0417	\$2,099.98
04118	RasterOps 24XLI	\$2,048.98
06721	RasterOps Movie Pack	\$1,709.98
06591	Sharp Wizard 9600	
	Pen Based Org 256 KB	\$49.98
04038	Shiva FastPath	
	5 Thick/Thin	\$1,769.98
06101	Shiva LanRover/4E	
	Disk Holder (140 3")	\$1,759.98
00571	Sigma Granite	
	Power Portrait 15	\$65.98
00399	Sigma Platinum	
	Power Portrait 15	\$65.98
05270	Solid Wood Sackable	
	Disk Holder (140 3")	\$2.98
06404	Sony 3.5" Rewrite M.O.	
	512 Byte/Sec 128MB	\$48.98
06413	Sony 5.25" Rewrite M.O.	
	1024 Byte/Sec 650MB	\$128.98
05068	StyleWriter Ink Refill Black	
	2 Pac	\$1.98
06476	SuperMac SuperView	\$36.98
06234	SuperMatch 20 Multimode	
	Trinitron Color Display	\$2,698.98
04351	SupraFaxModem Plus	\$149.98

Policies

- All major credit cards accepted. No surcharge.
- Credit card not charged until order is shipped. If we must ship a partial order, freight is not charged on back order (USA only).
- Most personal and company checks received by mail clear immediately. All checks or purchase orders must have a phone number and contact person listed.
- A \$20 fee will be charged on all returned checks.
- C.O.D. orders accepted: limit \$1,000 per order. Cashier's check or money order only. Add \$5 per C.O.D. order.
- Educational, government and corporate purchase orders accepted.
- All products covered by 120-day limited warranty.
- No sales tax, except applicable sales tax in WA and OH.
- Prices and product availability subject to change without notice. All specials and promotions limited by availability. Call for current prices.
- All shipments refer to items in stock, barring system failure, etc.
- Shipping: \$3 per order for delivery in the USA via Airborne Express overnight service. (Some rural areas require extra day for delivery). Canadian customer orders, in most cases, delivered within 24 hours. Call for complete information. All U.S. shipments insured at no extra charge.
- APD/FPO box orders shipped first class U.S. Mail. Shipments to P.O. Boxes via UPS.
- Orders placed by 2 a.m. ET weekdays ship that day.
- Orders placed Saturday by 9 p.m. ET ship to arrive Monday.
- Competitive upgrades require proof of purchase of qualifying software.
- Not responsible for typographical errors.
- Defective software replaced immediately. Hardware repaired or replaced at our discretion.
- Return Authorization Number must be obtained prior to returning any item. Call Customer Service Hotline: 1-800-243-9948 weekdays 9 a.m. to 6 p.m. PT.

The Mac Zone • 17411 NE Union Hill Road, Redmond, WA 98052-6716
International: 206-883-3088 FAX: 206-881-3421

©1993 Copyright Multiple Zones International, Inc. All rights reserved.
Unauthorized duplication is violation of applicable laws.

PARIS TRIP RULES To enter: When you place your order, you are automatically entered in the contest! You may also enter just by checking the contest box on the Mail Order Form and returning your entry in the enclosed postage-paid envelope. Or, mail us a standard 3X5" note card or post card with the following information: • Your full name • The name of your company • Your work address and phone number • You must include the catalog code (on back cover) **Official Rules** • You must be at least 21 years old to enter. • Offer valid in the U.S. only. • NO PURCHASE NECESSARY. • One entry per person. • Trip must be taken by March 31, 1994. • Prize awarded by random drawing on January 10, 1994. • Winner is responsible for all applicable taxes. • No substitution will be made for prize. Prize may not be transferred nor will cash be substituted. • This offer is not open to employees of Multiple Zones International, Ingram Micro D or any other person or organization responsible for this promotion. • Late, lost, illegible, misdirected or incomplete entries are ineligible. • Odds of winning depend on number of entries received. One prize will be awarded. • Winners consent to the use, without compensation, of their name, address and likeness in promotional and advertising material related to the contest. • Winners must execute an affidavit of eligibility and release or prize may be forfeited. • Offer void where prohibited by law. • To obtain the name of the winner, send a written request with a self-addressed stamped envelope to Mac Zone Paris Trip Contest, Winner Information Request, 17411 NE Union Hill Road, Redmond, WA 98052.

DON'T MISS IT!

Every issue of the Mac Zone features:

- Over 2,400 of the latest software & hardware products for your Mac
- Exciting contents and offers!

FREE MAC ZONE 1 YEAR CATALOG SUBSCRIPTION

31201

The Mac Zone
Your Catalog SuperStore

Name

Address

City

State

Zip

Apt

Mail to: The PC Zone, 17411 N.E. Union Hill Road, Suite 140, Redmond, WA 98052-6716

Expect your first issue in 4-6 weeks

**Order before 2:00am December 24th for
\$3 Overnight Holiday Delivery!**

**The Mac
Zone™**
Your Catalog SuperStore

*The cost-effective way to
triple the battery life of your
PowerBook!*

\$199⁹⁸

NEW!
PRODUCT



VST Power ThinPack Battery

- ▶ Delivers 5 to 9 hrs. B&W/Grayscale PowerBooks, 3 to 4 on color models
- ▶ UL listed for safety, thin, light and safe enough to carry anywhere
- ▶ Now bundled with ThinPack Utilities - battery management software

Your PowerBook's typical hour and a half of internal battery life always seems to work against you. And if you've got color it's even worse. Here's the solution. The VST ThinPack battery. It can provide up to 9 hours of continuous operation with this small, wafer-thin battery that weighs just 24 ounces. Color PowerBooks can operate for 3-4 hours. Complete with ThinPack Utilities software for smooth operation with the PowerBook's Power Manager. VST Power Systems #98260

Apple Power CD

- ▶ One Drive Solution
- ▶ Works with the Mac, Powerbook, TV & Audio
- ▶ With Remote Control



\$399⁹⁸

The PowerCD is the only portable CD player that works with your Apple Macintosh™ or Apple PowerBook™ to read CD-ROM discs, hooks up to your TV to view single and multisession Kodak Photo CD™ discs, and connects to your stereo system to listen to audio CDs. Its sleek, lightweight design makes it the perfect traveling companion, and like every Apple product the PowerCD is ready to go right out of the box. You'll also find built-in SCSI and audio/video ports as well as stereo jacks for quick hook up. Order today. Discover what makes the new Apple PowerCD so exceptional. You'll soon find yourself playing more CDs, in more places, more often than ever before. Apple Computer, Inc. #98105

DOUBLECASE Powerbook - 1000 with Strap

\$45⁹⁸

NEW!
PRODUCT

- ▶ Stylish and compact
- ▶ Tight, Never-Fail snap latches

**LIFETIME
WARRANTY**

The DOUBLECASE Powerbook - 1000 is compact, stylish, lightweight, and provides the real protection you require without the bulky chambers of other transports. When you need real protection for your computer, the DOUBLECASE powerbook - 1000 is the one you want. DOUBLECASE #98603

SupraFAXModem 144LC Mac Ext Complete communications at a Supra-low price!

\$169⁹⁸

- ▶ Sends & receives data & faxes at 14,400 bps
- ▶ Supports Caller ID
- ▶ Small enough for a PowerBook



With many innovations you can't find in the high-priced modems, the 144LC package also includes MicroPhone LT software, CompuServe Information Manager, cables and manuals. Supra #99308

WIN \$5,000

Scratch & Win card inside each box. Contest ends 12/31/93 or while supplies last.

Fuji DS/HD Unformatted 1.4MB

For a limited time, purchase a 10-pack of premium-quality Fuji DS/HD unformatted 1.4MB disks and receive a coupon for a \$1 rebate. That means you get high density Fuji disks for less than the price of 800K disks! But order now, because once they're gone... they're gone. Fuji #06640



\$7⁹⁴

Multimedia Disk Tray **\$9⁹⁸**

The First disk tray designed to store a variety of media in any combination simultaneously. Fellowes #99397

Step Cube 3-1/2" **\$14⁹⁸**

This practical 3 1/2" diskette file is for use when space is a minimum and portability is a must. Holds 15 disks. Fellowes #99395

Wrist Rest Keyboard Cover **\$27⁹⁸**

Save your wrist and your keyboard all in one easy move. You'll be glad you did! Fellowes #99393

- #99394 Copy Arm \$8.98
- #99396 Lock-N-Go \$12.98

CIRCLE 135 ON READER SERVICE CARD.

TO ORDER JUST CALL:

OR FAX: 1-206-881-3421

INTERNATIONAL CALL: 1-206-883-3088

1-800-436-8000

**The Mac
Zone™**
Your Catalog SuperStore

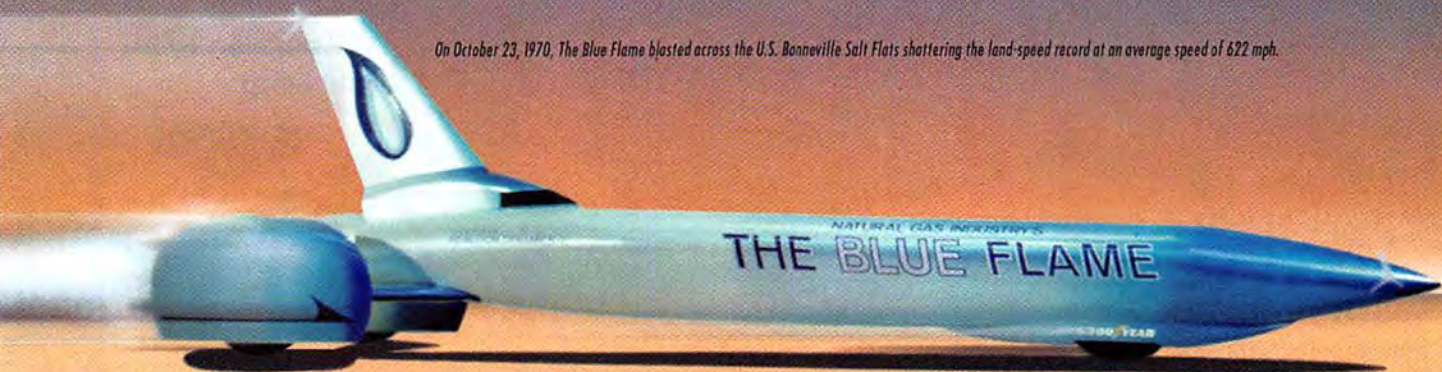
PLEASE USE
THIS CODE TO
RECEIVE THESE
SPECIAL PRICES
31201

LOW PRICES • \$3 OVERNIGHT SHIPPING • OVER 2,400 PRODUCTS IN STOCK!

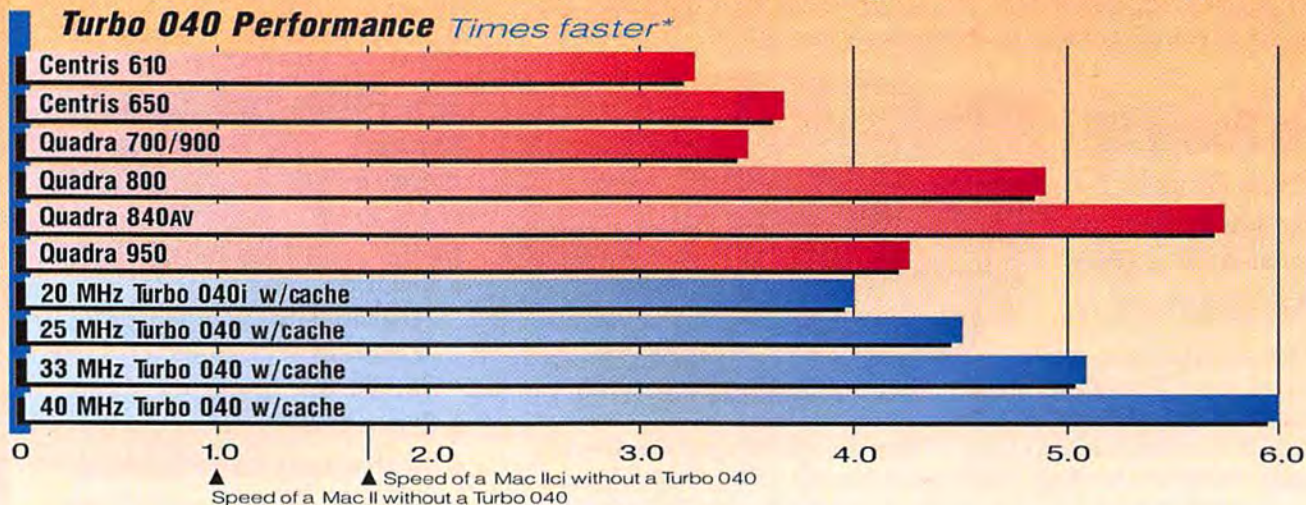
Make Your Mac Faster than the Quadra 840AV

Check Out Our
New Lower Prices!

On October 23, 1970, The Blue Flame blasted across the U.S. Bonneville Salt Flats shattering the land-speed record at an average speed of 622 mph.



Record-Setting Performance for Your Apple Macintosh



The Turbo 040 makes your Mac run faster than a Quadra! That's because the Turbo 040 is a CPU accelerator that connects directly to the power source, your Mac's processor direct slot (PDS). It's the fastest and cleanest way to connect an accelerator.

Add a cache card for additional speed! With the optional¹ external cache card, the FastCache Turbo, your Turbo 040 performance will be supercharged by up to an additional 70%! It's for the power hungry user of graphics and desktop publishing applications.

DayStar designed the Turbo 040 for easy installation, no software patches and no memory hassles. It works with standard hardware, including all NuBus cards, and runs any Quadra compatible software including Apple's virtual memory. Our standard is to provide blazing speed with 100% compatibility for smooth operation.



NOW shipping all versions...

20, 25, 33 MHz Turbo 040i (without math coprocessor)

25, 33, 40 MHz Turbo 040 (with built-in math coprocessor)

for the Mac IIfx, IIfx, II, IIx, IIcx, SE/30, IIvi and IIvx

¹DayStar's product in particular is excellent in design and execution... an excellent value."

MacWEEK, May 17, 1993

NuBus Adapter
for the Mac IIfx
Now Available



DAYSTAR
DIGITAL

The Leader in Macintosh Acceleration and Image Processing

5556 Atlanta Highway, Flowery Branch, GA 30542 • (404) 967-2077, Fax: (404) 967-3018

Other brands and product names are trademarks or registered trademarks of their respective holders. Product specifications are subject to change without notice. ©1993 DayStar Digital, Inc.

*Average relative performance of: FreeHand Fill in Window, Photoshop Resize, Excel Fill Right, XPress Go to Page, FileMaker Pro Sort.

¹Included with 40 MHz Turbo 040.

CIRCLE 93 ON READER SERVICE CARD.

Call for an immediate fax brochure!

1-800-532-7853

DIAL 4 THEN CHOOSE BROCHURE 4001



NEW ON THE MENU

Building better boxes: **CD-ROM drives and color monitors** are at the heart of NEC Technologies' business, but CD-ROM drives and color monitors are just commodities. So NEC has come up with new models in both areas that incorporate several significant enhancements.

NEC was the first company to introduce double-speed CD-ROM drives, but with multimedia CD-ROMs, even double-speed drives aren't fast enough. As a result, NEC is replacing its current CD-ROM drives with two *triple*-speed models: the **MultiSpin 3Xe** (\$600) and the **MultiSpin 3Xp** (\$455), both of which boast data-transfer rates of 450 Kbps, access times of less than 200 milliseconds, and a switchable SCSI 2/SCSI 1 interface. The 3Xe and 3Xp are the same drive, but the former is external and the latter portable.

To give the 3X line some personality, NEC has redesigned the cases, making them sleeker and providing some additional functionality. The 3Xe has a new dust door that simplifies the loading and ejecting of a disc single-handedly. The audio controls on the 3X line are all up front, including an LCD panel that makes selecting tracks on an audio CD easy.

Although most current CD-ROMs can't take advantage of the 3X line's triple-speed capability, NEC has signed agreements with several multimedia developers, including Time-Warner and Macromedia, who have agreed to support the new standard.



On the monitor side, NEC has three new offerings: one on the low end and two on the high end. The **MultiSync 3V** (\$550) is a high-quality, low-cost, 15-inch monitor that boasts **EPA EnergyStar-compliance**. It supports a top resolution of 1,024 x 768 pixels and has a refresh rate of 60 hertz — the equivalent of a 19-inch, two-page monitor.

On the high end are the 17-inch **MultiSync 5FGp** (\$1,455) and the 21-inch 6FGp (\$2,535), which offer a top resolution of 1,280 x 1,024 pixels at 74 hertz. Both of these monitors are also

EnergyStar-compliant and offer a new OptiClear surface that reduces glare and increases contrast. The 6FGp replaces the earlier 6FG, and the 5FGe remains in the line. 708-860-9500.

Up to Date . . .

FileMaker Pro 2.1, Claris' popular database program, supports IPX for peer-to-peer file sharing with Windows FileMaker users. 408-727-8227. \$399. ▲ **TeamAgenda 1.5**, MacVONK's scheduling package, now includes

banners and public events, alarms, proxy support, and optional PowerTalk support. 403-232-6545. \$99. ▲ **World Atlas** and **US Atlas**, both version 3.0, are enhanced versions of CD-ROM-based atlases from



The Software Toolworks. Each disc includes more than 150 video clips plus audio files and color reference and relief maps. 800-234-3088 or 415-883-3000. \$69.95 each. 🖱️

By Russell Ito



Hewlett-Packard's LaserJet 4MP combines the print quality of a LaserJet 4M (600 dpi) with the size and ease of use of a LaserJet 4ML. You can even print on paper as small as a 3-x-5-inch index card.

HP's Packed Printer

When Hewlett-Packard introduced the LaserJet 4ML printer in June, it was the most feature-packed printer we'd seen in its class. But that was June. Now, HP has topped that machine with the LaserJet 4MP, HP's first 4-ppm, 600-dpi printer.

Only slightly larger than the 4ML, the 4MP is a hybrid, combining elements of the LaserJet 4M and the 4ML. Like the 4M, the 4MP is a 600-dpi (with resolution enhancement) PostScript Level 2 printer, but its speed matches the 4ML's: 4 ppm. It includes LocalTalk and parallel ports, with automatic emulation switching. Like the 4ML, the 4MP uses an instant-on fuser that doesn't require a warm-up cycle, but unlike the 4ML, it does have an on/off switch. The 4MP comes with 6 megabytes of RAM, and it uses a 20-megahertz Intel 80960 RISC processor. Like the 4ML, the 4MP offers HP's exclusive EconoMode printing, which can cut toner usage in half.

The 4MP has outstanding paper-handling functions. It comes standard with a 250-sheet tray (versus the 100-sheet tray in the 4ML), and it

can support a wide variety of custom paper sizes and weights. The 4MP prints on paper as small as 3 x 5 inches and as heavy as 42 pounds!

Hewlett-Packard Co., Direct Marketing Organization, P.O. Box 58059, MS511L-SJ, Santa Clara, CA 95051. 800-752-0900 or 408-725-8900. \$1,729.

Apple's Easy Images

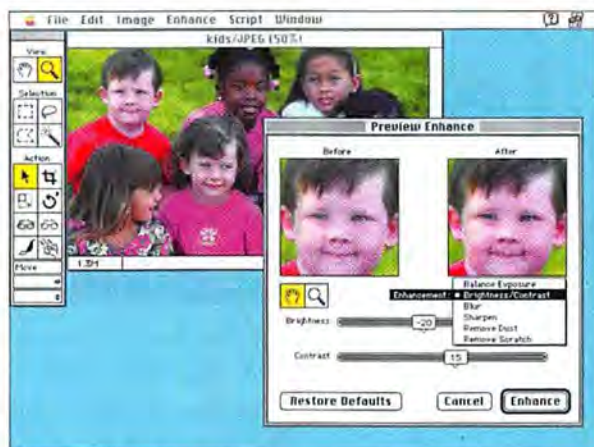
Working with photographic images usually requires a fast machine, lots of memory, and a fairly high level of sophistication to handle the imaging

software. Apple's first application in a long time, PhotoFlash, is different, however. Aimed at non-publishing professionals, PhotoFlash is a page-layout add-on that lets users prepare and manipulate images quickly, without requiring a steep learning curve or loads of memory.

Jointly developed with Storm Technology, a JPEG pioneer, PhotoFlash uses Storm's image-compression expertise to solve the memory problem. PhotoFlash's virtual-memory scheme is so fast and efficient that you hardly notice the virtual memory kicking in. To make finding and importing images easier, PhotoFlash includes an integrated image browser and supports Photo CD.

To close the layout loop, PhotoFlash comes with scripts that automatically place your images into your QuarkXPress or Aldus PageMaker files; you can even drag images directly from the browser into your layout. For more-sophisticated users, PhotoFlash supports AppleScript and Photoshop plug-ins.

Apple Computer, 20525 Mariani Avenue, Cupertino, CA 95014; 408-996-1010. \$275 to \$300 (exact price not available at press time).



PhotoFlash, the first application from Apple's new software division, lets non-publishing professionals work with photo images without requiring a steep learning curve.

The Mac Whiteboard

Recording a meeting's whiteboard proceedings usually involves having someone copy everything down, but Microfield Graphics has come up with another method: using a whiteboard that plugs in to your Mac.

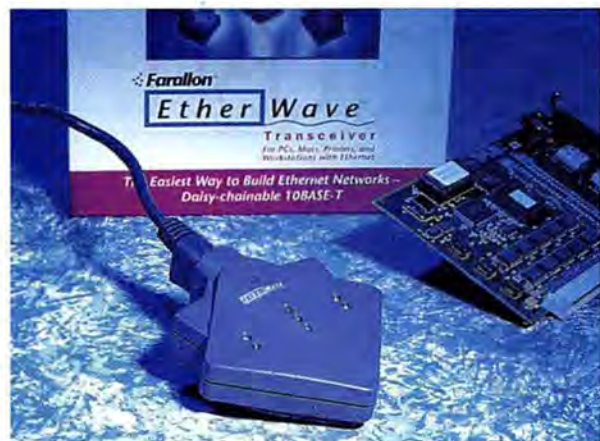
Microfield's SoftBoard is a 54-x-60-inch, wall-mounted whiteboard equipped with dual lasers. When you write on the board, the lasers track the position of your special pens and transmit that information to your Macintosh via a serial connection. The result is an electronic record of your meeting — complete with erasures — that you can play back or scroll through to find that one perfect idea, which you can then print or distribute as an image. The special dry-erase pens even let you record as many as four colors: black, blue, red, and green.

For collaboration with workers in another office, Microfield also offers telecom software for sharing information on SoftBoards over standard phone lines.

Microfield Graphics, Inc., 9825 S.W. Sunshine Court, Beaverton, OR 97005; 800-334-4922 or 503-626-9393. \$2,995.

Easy Ethernet

The power of Ethernet with the ease of LocalTalk has been something of the Holy Grail of networking. Setting up or expanding Ethernet networks is complex, requiring hubs and often extensive rewiring. But Farallon Computing's new EtherWave products are the first daisy-chainable Ethernet solution, giving you Ethernet speed with LocalTalk-like ease of setup.



Farallon Computing's EtherWave family of products brings LocalTalk-like plug-and-play simplicity to Ethernet.

The cards, transceivers, and adapters in the EtherWave line meet all the speed and network standards of 10BASE-T Ethernet but let you make your network connections over unshielded twisted-pair wiring without a hub. Each of the EtherWave products includes a pair of RJ-45 ports, letting you connect two devices to a network from a single Ethernet drop.

EtherWave's daisy-chaining function lets you connect as many as eight devices without a hub, but the devices can also be used with a hub to extend the hub's capabilities. The EtherWave products are self-terminating and provide an easy way for PowerBook users to connect to — as well as disconnect from — Ethernet networks.

Farallon Computing, Inc., 2470 Mariner Square Loop, Alameda, CA 94501; 510-814-5100. \$150 to \$400, depending on device.


HP Toner Redux

Remanufactured laser-printer toner cartridges and high-quality are two phrases that aren't often found in the same sentence, but Hewlett-Packard is betting it can beat the rap on remanufacturing.

HP is now the first major manufacturer to enter into the remanufactured-toner-cartridge business, with the HP Optiva 95R.

To ensure a high-quality product, the company has developed an entirely new toner formulation and drum for its Optiva cartridges, and the company will accept only HP, Apple, or Canon cartridges for its program. The Optiva process includes recertification of all parts, replacement of all worn parts, and then filling and assembling with the new Optiva toner and drum. The Optiva cartridges carry an expected 4,000-page life cycle and a 90-day warranty.

Users can get Optiva cartridges by purchasing a toner-exchange packet at their dealers and returning to HP an empty HP 92295A toner cartridge (the cartridge that fits Canon SX engines, including those of the LaserWriter IISC, IINT, IINTX, IIf, and IIG), using the labels in the exchange packet. The cost will be about 24 percent less than that of buying a new cartridge, with a turnaround time of 4 to 12 days.

Hewlett-Packard Co., Direct Marketing Organization, P.O. Box 58059, MS511L-SJ, Santa Clara, CA 95051. 800-752-0900 or 408-725-8900. \$95. 



POWERPC WATCH

Going Native

The first real test of the PowerPCMac's viability will be whether anyone writes software for it.

Introduce a new computer platform, and the first thing people want to know is, "Will it have software?" Apple's already shown that PowerPC Macs



Adobe

can run current Mac applications by using the built-in emulator, but that won't unleash the power of the new chip. If you want to get the most out of your PowerPC Mac, you'll need "native" applications designed to run on the PowerPC Mac.

Several developers have already announced their intent to ship native applications when Apple ships the new PowerPC Macs or soon thereafter. The list is impressive.

Adobe Systems, ACl, Aldus, Claris, Deneba Software, Frame Technology, Insignia Solutions, Microsoft, Quark, Specular International, and WordPerfect have all announced that they plan to support PowerPC, but so far they haven't said what specific applications they plan to ship first.



ALDUS

However, given that this group of developers covers nearly all the top-selling Mac applications, it's safe to assume that the most popular applications will be going native as soon as possible.

Microsoft

By the way, another early adopter of PowerPC technology is Ford Motor, which plans to use PowerPC chips for its next generation of engine computers. Scientific-Atlanta has also announced that it will use PowerPC chips in its next-generation television-top boxes (which will act as front ends for "smart TV"). To top it off, IBM recently announced an entire new family of PowerPC Chips: the PowerPC 400 series, which will add high-speed smarts to everything from microwave ovens to laser printers.

Although we don't think you'll be able to run a native version of Photoshop in your Taurus, these announcements indicate that the PowerPC family has a bright future.

— Stephan Somogyi

CLARIS



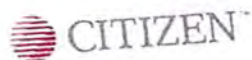
The best thing next to the Macintosh.

When we say Citizen works where you work, we mean it. On your desktop or on the road, the Notebook Printer II™ is the perfect companion to your Macintosh™. With its built-in, 5-page sheet feeder or optional 30-page sheet feeder and NiCad battery, you'll get laser-quality text and graphics wherever your work takes you. You'll also get two pages per minute output and Special-Image Color. All for a surprisingly low price.

Think of it. Now you



My business takes me all over the world and the Notebook Printer II goes with me.



Your PowerBook Printin

With laser-quality text, graphics, and color, the Notebook Printer II is your printing partner.

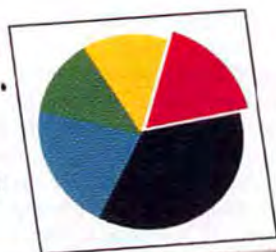




*It's a great printer...
it's compact, reliable, and the output
looks as good as an expensive laser.*

*can use your printer at your desk or in just about any location, use color when you
need it, and produce professional-looking results. The
Notebook Printer II really is the perfect plug and play
companion to your Macintosh.*

artner.
-image
business



*And all Citizen printers come with Citizen's two-year
warranty and exclusive Service Select Program.™*



*For more information on the
printer that works where you work,
call 1-800-4-PRINTERS for a
Citizen Notebook Printer II
dealer near you.*



 **CITIZEN™**

The Notebook Printer II. It works where you work.
CIRCLE 50 ON READER SERVICE CARD.

PAGE LAYOUT

PageMaker 5.0

Aldus fashions welcome new tools for its flagship page-layout program.

In the world of page-layout software, Aldus PageMaker is the undisputed champion for preparing general business documents. With its well-designed features for indexing and creating tables of contents, as well as its separate story editor, PageMaker also makes short work of long documents. With the latest release, 5.0, the program not only strengthens its position with general business users but it also sets its sights on rival QuarkXPress' professional publishing clientele. New built-in color-separation facilities, support for multiple open documents, and tools for free rotation of text and graphics significantly boost PageMaker's power. Faster printing, improved cross-platform compatibility, expanded color capabilities, and a slew of new Additions round out the list of PageMaker 5.0 enhancements.

Getting Around

PageMaker 5.0's free rotation of text and graphics is a welcome, albeit long overdue, feature. With the program's new rotating tool, you can set a rotation point and then manually rotate items through 360 degrees in .01-degree increments. An outline of the object and a rotation


PageMaker 5.0
 Published by: Aldus Corp., 411
 First Avenue S., Seattle, WA
 98104; 206-628-2320.
 List Price: \$895.

lever help guide your progress. We encountered one minor problem with this feature — rotated opaque PICT files sometimes appeared transparent on-screen and printed correctly only on PostScript printers.

Another new feature, available on PageMaker's Control palette, lets you create vertical and horizontal reflection effects by flipping objects, text blocks, and bit-mapped images. You can also skew objects horizontally by +85 or -85 degrees. To specify precise values for resizing, rotating, skewing, and cropping objects, you can enter values directly into the Control palette.

In the previous release of PageMaker, the Control palette served as a handy tool for moving and resizing objects. With version 5.0, however, the palette has been greatly enhanced and can control a much wider range of operations. In fact,

you can drive much of the application from this single palette. Packed with more features than QuarkXPress' analogous Measurements palette, PageMaker's palette is a real workhorse. The palette displays different options, depending on the type of object or tool you've selected.

Control-palette enhancements in version 5.0 enable you to format text and paragraphs,

including setting right, left, and first-line indents; edit paragraph styles; and track and kern text. A type-ahead feature (you select the Juniper font by typing *Ju*, for example) makes selection of font and paragraph styles quick and easy. To adjust measurements quickly as you're resizing and moving items, you can add, subtract, multiply, and divide within the Control palette's numeric fields.

Enhanced nudge buttons also reside on the Control palette. Previously, you could use the buttons to move objects in screen-pixel increments, which varied with the page view. Now you can set your own nudge units for moving and resizing objects. Using the keyboard and the Control palette together, you can also move objects in power-nudge units — a power-nudge is ten times a nudge. You can't define nudge units for most text-formatting options, but the program does such a good job of defining them for you that this is not really a shortcoming.

On the Right Track

PageMaker's kerning and tracking controls have been improved with version 5.0. In addition to the Control palette's easy-to-use buttons and type-in fields, PageMaker 5.0 includes two new typographic Additions: the Expert Kerning and Edit Tracks Additions. The Expert Kerning Addition, which you can use to fine-tune the spaces between letters when you're working with text at large point sizes, appears on the new Utilities menu. The Edit Tracks Addition provides precise control over the program's five built-in tracking settings (very loose, loose, normal, tight, and very tight), which control the spacing between words and letters. You can adjust the tracking for font sizes from 4 to 650 points. This Addition is also supposed to automatically create a document comprising samples of edited track values, but we weren't able to get this feature to work.

There are 18 new Additions in all, bringing the total to 22 for version 5.0.



PageMaker 5.0 features new tools for improved precision and control. The Toolbox's rotating tool lets you rotate text and graphics through 360 degrees in .01-degree increments (upper left).



A welcome and long overdue feature, new in PageMaker 5.0, is the ability to have more than one publication open at a time.

The PS Group It and PS Ungroup It Additions address a particularly vexing problem that has long plagued users of previous versions of PageMaker — the inability to group objects. We found the solution provided by the two Additions a bit unwieldy, however. True, you can now group objects and move them as a single item. But to group objects, PageMaker first saves your publication and then creates an EPS file of the grouped objects — a time-consuming process. Other noteworthy Additions include the Build Booklet (an enhanced version of 4.2's Make Booklet), Display Story Info, and Find Overset Text Additions.

Among the several printing improvements in PageMaker 5.0 is the Printer Styles Addition, which defines and saves a document's printer settings. In addition, printing is speedier, thanks to a rewritten printing architecture. You can also now print nonconsecutive pages and ranges of pages by issuing a single Print command.

With version 5.0, PageMaker finally lets you have more than one publication open at a time (the number is limited only by the amount of RAM you have) — a tremendous improvement and boon to productivity. PageMaker also now supports drag-and-drop operations, as does QuarkXPress, for streamlining the process of moving elements within publications or among them.

Creating color separations for Page-

Maker documents hasn't been a big problem since the introduction of Aldus PrePrint. However, you had to run your PageMaker document through the PrePrint standalone application in order to color-separate pages. If you made changes to documents, you had to repeat the operation. PageMaker 5.0 eliminates this inconvenience by including color-separation facilities within the application. Color-separation support applies to PageMaker text and graphics, EPS files, CMYK TIFF files, and DCS images. You still need to use PrePrint to separate RGB TIFFs, however, and PageMaker lacks the basic color-correction features PrePrint supplies.

One of the most useful new color features enables the program to automatically transfer the colors of imported EPS images to the PageMaker Colors palette. Once they've been added to the palette, you can edit the colors. This delivers a one-two punch in convenience: Not only can you quickly match the colors of rules and text created with PageMaker to the colors in your imported graphic but you can also see ahead of time what plates will be produced with a spot-color separation. New color libraries — Trumatch, Focaltone, and Dainippon — add to version 5.0's color feature set.

These improvements aside, PageMaker 5.0 lacks the sophisticated color-

what they need in QuarkXPress 3.2's incorporation of EfiColor. As we went to press, Aldus reported that color-management features for PageMaker are still several months away.

Cross-platform compatibility, well supported in previous versions of PageMaker, is even better now. Version 5.0 supports the new PANOSE font-mapping system for automatic or manual font substitution across Mac and Windows PC platforms. When you open a publication created on the other platform, if PageMaker can't find a needed font, PANOSE notifies you, suggests a substitute, and lets you specify another font.

PageMaker also supplies a rich assortment of import and export filters. The 39 text- and graphics-import filters include support for the Kodak Photo CD format and TWIN as well as a variety of word processing and spreadsheet formats. Seven standard export filters are included.

PageMaker 5.0 requires System 6.0.7 or later, but you gain access to more features with System 7. Aldus recommends at least a Mac SE/30 or II-series machine with 5 to 8 megabytes of RAM. This, of course, leaves behind PageMaker loyalists who work on a Mac Plus, SE, or Classic. You also need to set aside at least 13 megabytes of hard-disk space.

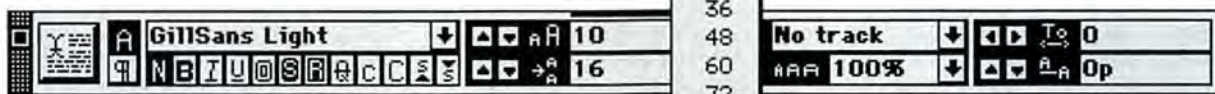
The Bottom Line

Although its desire to lure professional publishers into the fold is readily apparent with PageMaker 5.0, Aldus clearly hasn't forgotten its core of general business users. Offering numerous new conveniences and features for precision and control, the versatile PageMaker solidifies its position as the page-layout program of choice for creating business documents. Despite its powerful arsenal

of features, however, PageMaker 5.0 continues to lag behind QuarkXPress in several key high-end publishing areas, most notably color management, multiple master pages, and true object grouping.

— Shelley Cryan

You can use PageMaker 5.0's handy Control palette — which displays different options depending on the task — to drive much of the application. Here, the palette displays text-formatting options.



DRAWING

Illustrator 5.0

Adobe wins hands down with its long-awaited upgrade to Illustrator.

With the latest sweeping upgrade, Adobe's veteran illustration program does more than play catch-up with the competition. Illustrator 5.0 has so many enhancements — including powerful plug-in filters, floating palettes, the ability to edit in Preview mode, and support for multiple drawing layers — that it races far ahead of its rival, Aldus FreeHand.

More Palette-able

Illustrator 5.0's most visible improvement is a flexible new interface. Powerful floating palettes provide quick and convenient access to settings for paint styles, gradient fills, drawing layers, and

Illustrator 5.0

Published by: Adobe Systems, Inc., 1585 Charleston Road, P.O. Box 7900, Mountain View, CA 94039; 800-833-6687 or 415-961-4400.

List Price: \$595; CD-ROM version, \$695.

multiple drawing layers makes it easy to group and arrange objects. You can control how your documents are printed, displayed, and edited by using the Layers palette, which lets you hide and lock layers. Symbols to the right of the layer

names in the palette indicate the layer you are currently working on as well as the layer assignments for each object selected in a drawing.

To make it easy to distinguish one layer from another, you can assign a color to each layer. Illustrator comes with nine built-in colors, but you can also choose custom colors from the Apple Color Picker. This feature is a real boon for technical illustrators who frequently work with complex drawings.

The new paint features include a pressure-sensitive freehand brush tool. Illustrator matches rival FreeHand's pressure-sensitive pen feature by feature and ups the ante by providing calligraphic capabilities. Drawing with a Wacom tablet simulates the effects of using a fine calligraphy pen — you can even choose the angle of the nib. We were particularly impressed with the quick response of Illustrator's pressure-sensitive tool.

Blending In

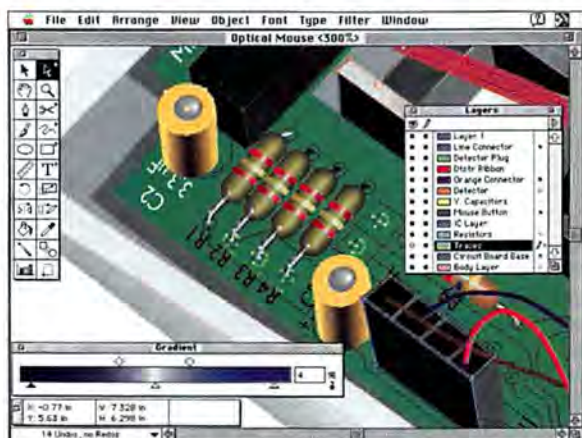
Illustrator also provides better control than FreeHand over the process of creating gradient fills. Fills can consist of a blend of two colors or of multiple intermediate blends among several colors. Illustrator offers the same linear- and radial-blend options as FreeHand, but it provides more flexibility by letting you set the beginning point and endpoint of a blend. The Gradient palette offers easy control over the bias of blend colors (how quickly a blend changes from one color to another).

You can apply gradient fills across multiple objects, including type characters. Moreover, it's now a two-step process to blend colors across a type selection — the previous version required you to use multiple commands and tools. The blend tool is still available, but you need it only for creating blends that affect both shapes and colors.

For creating special effects, the new Illustrator comes with a varied collection of plug-in filters. The filters not only let you create distortions, calligraphic effects, and the like but they also enable you to create a wide variety of special shapes.

Powerful Boolean operations let you combine, exclude, and intersect existing objects to create new shapes — for example, with the Pathfinder Combine filter, you can create a cylinder outline by combining two ovals and a square. Boolean operations take only seconds to execute and eliminate the tedious process of cutting and joining objects. Pathfinder filters can also divide and crop any set of objects based on the intersection of a line or a square, which makes it simple to add a fancy fill effect or fit an object to a precise area.

The Colors filters enable you to manipulate color in powerful ways — for example, you can intensify the colors of selected objects by increasing the percentages of CMYK values. You can also invert the color values of an image as well as adjust the CMYK values for a set



Adobe's latest release of Illustrator boasts a dazzling array of new features, including excellent gradient-fill tools and a well-designed Layers palette for managing multiple drawing layers.

type. Not only can you use the Character palette to select font and type size but you can also use it to alter kerning, horizontal scaling, and so on. Overall, by having replaced the previous version's modal dialog boxes with floating palettes, Adobe enables you to spend less time selecting options and more time on your design. And for those who make mistakes, the program now supports 200 levels of undo and redo.

Illustrator's newly added support for

of objects. Achieving just the right color has never been easier.

The Select filters provide powerful selection capabilities based on colors, paint styles, and stroke and fill weights. They enable you to select several ungrouped objects based on the properties of your current selection and then edit all the objects simultaneously. You can even use this feature to select stray single points in an illustration.

Custom Views

At last, Illustrator lets you edit in Preview mode — a long overdue feature. In addition, support for multiple custom views makes working with complex drawings easier. You can create as many as 25 custom views of a single document. When you create a view, you can save the current zoom level, layer options, and mode (Preview or Artwork). You can also display several views of the same document in separate windows and move quickly from one view to another.

Illustrator 5.0 provides many more zoom levels (150%, 600%, and 1,600%, for example) than the previous version did, so it's easy to achieve just the right ratio of detail and perspective. When you save custom views, the program adds their names to the View menu. Keyboard shortcuts are provided for the first ten views in the menu list.

To help you get up to speed with Illustrator 5.0's many new features, Adobe has revamped its manuals to include more-detailed descriptions of how the program works. In addition, an excellent five-part tutorial covers most of Illustrator's functions. Expert users will find

it useful to check out the updated *Beyond the Basics* booklet, which focuses on the many new tools and commands in version 5.0.

We also highly recommend the deluxe CD-ROM version of Illustrator 5.0. At \$695, it's a bit more expensive than the floppy-disk version (\$595), but the QuickTime tutorials created by Adobe's technical staff offer a slew of tips and techniques designed to sharpen your drawing skills. The CD-ROM package also supplies 40 more typefaces (in addition to the 40 that come with the floppy-disk version); the complete Adobe Collector's Edition Patterns; and demonstration versions of other Adobe applications, including Premiere. Users of the previous version of Illustrator can upgrade to the CD-ROM version for \$249.

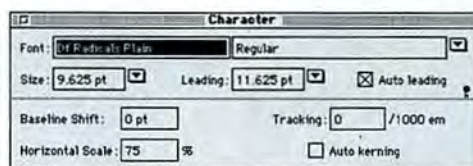
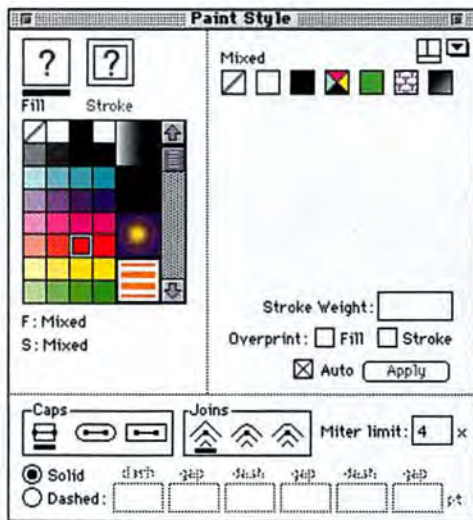
Wish List

We were impressed with both the quantity and the quality of the enhancements in version 5.0, but several features are still on our wish list. For single-page layouts, we miss a ruler for setting type. Although Illustrator provides full control over type specifications, it would be nice to be able to set a series of tabs for a paragraph.

Another omission is a type envelope feature similar to the one in Brøderbund's TypeStyler. Type envelopes let you create special type effects by stretching

selections, using Bézier curves. This powerful feature is also available in Deneba's Canvas 3.5 as well as in most Windows illustration packages.

Last, Illustrator 5.0 still lacks the ability to import TIFF files, a feature that rival FreeHand does provide. The majority of illustrators and designers would be well



Replacing the previous version's unwieldy dialog boxes are Illustrator 5.0's handy new floating palettes. You can add paint-style effects to drawings with the Paint Style palette (top). The Character palette (bottom) offers quick access to type-formatting controls.

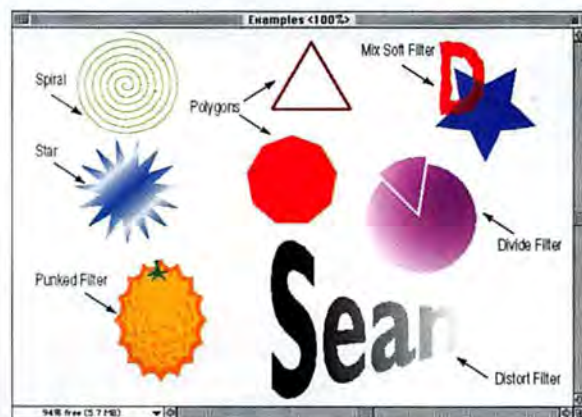
served by the addition of this necessary capability.

Those who have been putting off buying extra memory will need it for this upgrade — Adobe recommends a 4,700K partition! If your Mac is equipped with less than 8 megabytes of RAM, you'll still be able to use the program but large drawings may not open.

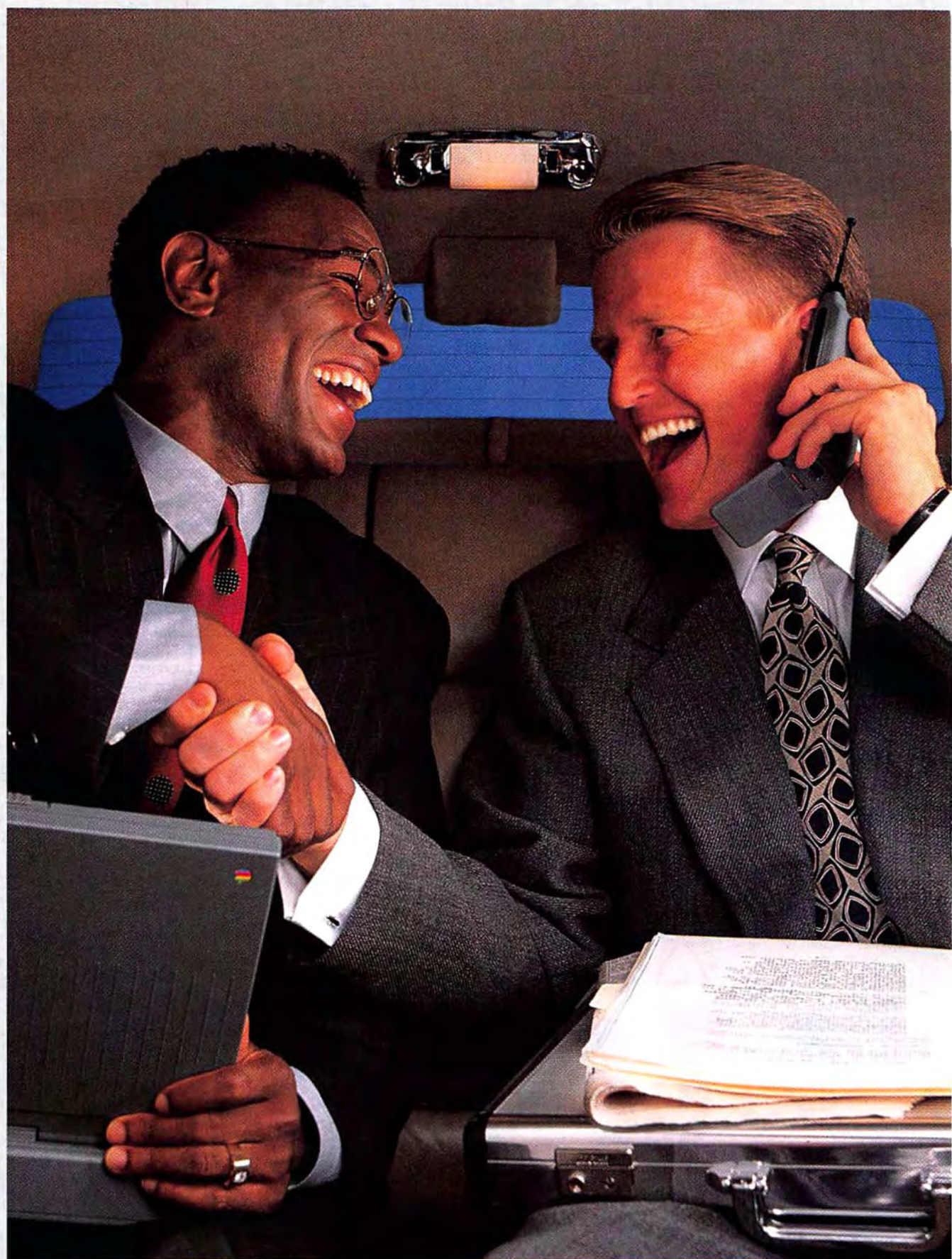
The Bottom Line

With the release of version 5.0, Adobe Illustrator becomes the ultimate illustration tool for graphics professionals. The program's revamped interface makes Illustrator 5.0 more convenient to operate than the previous version — most notable are the program's elegant new floating palettes. In addition, new plug-in filters and paint tools enable designers to create unusual special effects. If you're already an Illustrator user, upgrading to version 5.0 is the obvious thing to do. And if you're new to Mac-based design tools, you can't go wrong with Illustrator 5.0.

— Sean Safreed



New in Illustrator 5.0 are plug-in filters that let you create a variety of special shapes and effects.



Now Up-to-Date's Reminder menu gives you an immediate overview of your day's commitments.

Now Contact's Quick Contact menu gives you instant access to your frequently called names and numbers.



Now Contact keeps a complete record of all phone numbers, addresses, correspondence and appointments for your contacts.



Now Up-to-Date lets you schedule appointments, to-do items and reminders instantly – simply click on the date you want and then enter your information.

NOW YOU CAN GET AS ORGANIZED AS YOU PRETEND TO BE.

Ah, it's been a masterful charade—an Academy Award performance. That confident smile and firm handshake covering up the fact that chaos rules your life and you're just one more lost memo, forgotten name and misplaced schedule away from total disaster.

Well, now you can actually be that buttoned-up, on-top-of-it dynamo you've been pretending to be. Introducing Now Contact™, undoubtedly the most complete contact manager available. When used together with the award-winning Now Up-to-Date™, it's the ultimate personal organizer.

Now Contact is built around the philosophy that it's no use getting organized if you can't find stuff faster. It gives you instant access to all your names, numbers and addresses, retrieving information quicker than any competitive product, actually as fast as your screen can draw. Complete with a built-in word processor, Now Contact makes printing form letters, labels, faxes, envelopes and address books painless. If time, as they say, is money,

you'll be a bit richer every time you write a letter.

Now Up-to-Date, the best-selling calendar software, makes scheduling events, setting reminders, managing to-do lists, and printing calendars amazingly simple. Display your calendar by month, week or day—you choose the view that's right for you. Plus, if you are on a network, you can also keep your associates informed of your schedule.

Together, Now Contact and Now Up-to-Date put a complete record of all appointments and correspondence with your contacts at your fingertips. You can even create new appointments without pausing to open your calendar. Similarly, you can include contact information in your calendar without opening your contact file.

So, how productive would you be if you were as organized as you've been pretending to be? Get Now Up-to-Date and Now Contact and find out. Or give us a call for more information at 1-800-275-1669.

Put it on your to-do list right away. That is, of course, if you can even find it.

Now Software

Phone: 800-275-1669. Fax: 503-274-0670. For literature call FaxBack 503-274-2810 ext. 5. For 50-packs and site licensing information call 800-237-3611 ext.131.
©Now Software, Inc. 921 S.W. Washington, Suite. 500, Portland, OR 97205-2823.

CIRCLE 170 ON READER SERVICE CARD.

DIGITAL PUBLISHING

Adobe Acrobat and Common Ground

Digital publishing is here, but with a few catches.

Distributing digital documents has long been a dicey proposition: Often, those on the receiving end didn't have the application and the fonts used to create the document or lacked the required operating system. Fortunately, help is at hand, in the form of Adobe Acrobat and No Hands' Common Ground.

Acrobat is a high-end, high-priced digital-publishing product (\$1,395 for a complete ten-person starter kit) that targets corporations and workgroups. The price of Common Ground (\$189.95) makes the product more accessible to individual users. The aim of each is the same: to let you create from within any application special documents others can view, regardless of the computing platform (Macs, Windows PCs, and eventually UNIX workstations and PDAs). The special documents retain the original document's formatting and fonts, even when users lack the creator application.

Creating these documents with either Acrobat or Common Ground is as easy as printing. A printer driver converts jobs to a special file format; anyone whose machine has a special viewer installed can read the resulting file.

Adobe Acrobat

Acrobat is a set of products consisting of Acrobat Exchange, Acrobat Distiller, and Acrobat Reader. Each product



Adobe Acrobat 1.0

Published by: Adobe Systems, Inc.,
1585 Charleston Road,
P.O. Box 7900, Mountain View,
CA 94039; 800-272-3623
or 415-961-4400.

List Price: Acrobat Exchange,
\$195; Acrobat Distiller, \$695; Acrobat
Reader, \$50; ten-user starter kit
of all three products, \$1,395.



Common Ground 1.0

Published by: No Hands Software,
1301 Shoreway Road, #220,
Belmont, CA 94002; 415-802-5800.

List Price: \$189.95.

offers a different set of features for creating and viewing documents in Adobe's PDF (Portable Document Format).

The core of the product set is Acrobat Exchange (\$195), which consists of a Chooser extension called PDFWriter and an application. The extension lets you print to PDF files from within any application; the Exchange application lets you add powerful document-navigation tools. PDFWriter supports various built-in compression options (JPEG, LZW, and the like) for compacting documents as it

saves them to PDF format. A control panel enables you to perform one-shot PDFWriter printing and then returns you to your usual printer.

A PDF file is essentially a text file that contains PDF code describing the original document's formatting and contents. Like PostScript files, PDF files are device- and resolution-independent.

Once you've created a PDF file, you can use Acrobat Exchange to add sophisticated navigation aids, such as hypertext links, to your document. For example, you can select specific document headings and add them to a table of contents as bookmarks. Readers can then jump to any part of the PDF document by selecting the name in the table of contents. Exchange also lets you create thumbnails of your pages to help readers find their way through the document.

Unfortunately, if you decide to modify your original document, you'll need to reenter Exchange's links and bookmarks manually. Some companies, such as Xerox (maker of Ventura Publisher), plan to let users insert PDF tags for links and bookmarks in documents as they compose them. For now, however, expect major hassles when you modify documents that contain links or bookmarks.

You can read PDF files by using either Exchange or the \$50 Adobe Reader. Exchange and Reader each provide a



Acrobat Exchange (left) enables you to add sophisticated navigation features to the documents you create. Common Ground (above) has a simpler interface with zoom and text-selection tools.

basic set of navigation commands (Next Page, Previous Page, Find, and so on) as well as zoom views (12 to 800 percent) and an annotation feature for adding notes to pages. You can also select text and copy it. The Find command lets you search for only one word at a time, but Adobe is reportedly working on an enhanced search feature.

In the past, if you sent a file to users who didn't have the original document's fonts installed on their machines, the document they viewed was often not a pretty sight. To address this problem, Acrobat uses Adobe's ATM font substitution and multiple-master fonts to mimic the metrics of any Type 1 font, so line breaks remain the same (all Acrobat products come with ATM and the necessary support files). This technique generally works well for regular Roman fonts, but it can't represent non-Roman characters or pi fonts, such as Dingbats.

To circumvent this problem, you can use the steeply priced Acrobat Distiller (\$695) to create PDF files out of PostScript files (which System 7 users can generate in most Mac applications by selecting the PostScript File option in the Print dialog box). Distiller embeds Type 1 fonts in the PDF file so readers can see exactly how the fonts look — even pi fonts and non-Roman characters. Distiller can also print EPS graphics at the resolution of any printer (Exchange can display or print EPS graphics in PDF files only at a 72-dpi screen resolution). But Distiller is a memory hog — you need at least 6 megabytes of RAM for the application (Adobe recommends 12 megabytes). It also requires at least a Mac II (Exchange can run on a Mac Plus), running System 6.0.5 or later, and 10 megabytes of hard-disk space (Exchange needs 3.5 megabytes).

Distiller's hefty memory requirements and high price may be a barrier to many users. In fact, Adobe's pricing scheme for Acrobat makes it clear that the company is targeting the corporate market. Most users will be in companies wanting to cut printing and distribution costs for manuals and other documents.

Common Ground

On the surface, Common Ground works much like Acrobat Exchange. It consists of a Chooser extension, the Common Ground application, and Auto-Maker — a drag-and-drop utility that

lets you generate documents in Common Ground's DigitalPaper format without going through the Chooser.

Unlike Acrobat, however, Common Ground saves pages in a proprietary graphics format rather than describing them in a page-description language such as PDF. Instead of using font substitution, Common Ground creates an image of the fonts in a document. That means even non-Roman and pi fonts appear normal in DigitalPaper documents, whether or not the reader's Mac has ATM, multiple-master fonts, or the original fonts installed. However, the fonts aren't resolution-independent — 300 dpi is the maximum resolution.

Common Ground's major advantages over Acrobat are cost, convenience, and the provision of security options. Unlike Adobe, No Hands lets you embed a free miniviewer in any DigitalPaper file (adding about 64K to the file size), so you can send the file to anyone with a Mac (No Hands plans to ship a Windows version, but it was not available at press time). Recipients can launch the file, read it, and print it. Common Ground also offers some password and DES (Data Encryption Standard) security options. Last, Common Ground's system requirements are refreshingly modest: System 6.0.5 or later, 700K of free RAM, and about 700K of hard-disk space.

Common Ground, however, lacks sophisticated navigation features, such as those in Acrobat Exchange. You can't add hypertext links, thumbnail previews, or text annotations to documents, although you can annotate with sound. The Common Ground application provides basic tools for searching, zooming,



With Acrobat Exchange, multiple-master fonts (bottom) don't always faithfully mimic the actual fonts in a document (top). To get around this problem, you need the \$695 Acrobat Distiller.

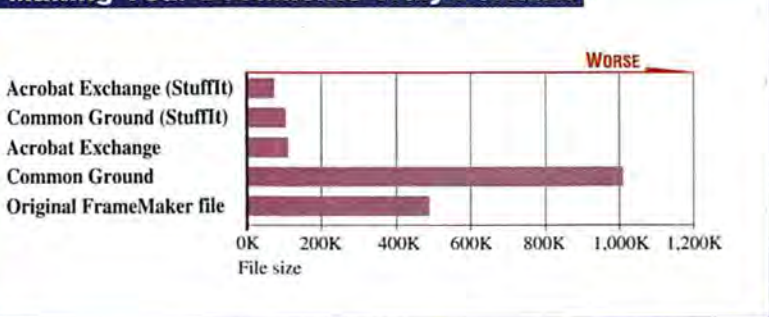
selecting, and copying text, but the reader supports only printing, viewing, and very basic navigation (you can maneuver to the next, previous, first, and last page).

Common Ground also lacks compression capabilities, which Acrobat has. And because DigitalPaper must store information for multiple resolutions (72, 100, 200, and optionally 300 dpi), DigitalPaper documents can be much larger than their PDF counterparts.

Testing Ground

We tested Acrobat and Common Ground by using a variety of documents, including memoranda, complex page-layout files, and FrameMaker manuals.

Making Your Documents Truly Portable



Acrobat's compression routines keep PDF files compact; the PDF files we created were less than one-fourth the original file size. You need a third-party compression utility to obtain similar results with Common Ground DigitalPaper files.

In addition to evaluating document quality, we compared file-creation speed and file size. To test Acrobat's cross-platform capabilities, we created and exchanged PDF files, using a 486/50 PC clone and a Quadra 700 equipped with 20 megabytes of memory.

In general, both products produced adequate representations of the original documents, although there were a few glitches. Common Ground made a much better job of consistently preserving the appearance of fonts. Acrobat's font-substitution approach always successfully preserved the character widths of Type 1 fonts, so line breaks remained the same, but it sometimes failed to faithfully mimic font heights, even for Adobe's own fonts. Acrobat sometimes displayed color text in black. And it couldn't maintain the character widths of TrueType fonts in Windows PDF files we ported to a Mac that lacked TrueType.

Acrobat Exchange and Common Ground each had problems with EPS graphics, which looked fine on-screen but printed as low-resolution bit maps. Using Acrobat Distiller is the only workaround for this problem. The PCX graphics contained in PDF files brought from the Mac to the PC also suffered in on-screen and printout quality. One graphics-heavy PageMaker 4.2 file printed out fine on a PostScript printer, but Exchange refused to process it. Common Ground,

on the other hand, handled the file without problems.

Acrobat Exchange bested both Distiller and Common Ground in speed tests (it took just less than 2 minutes to create a file from a graphics-intensive 20-page FrameMaker document, compared with about 3 minutes for Distiller and 2.5 minutes for Common Ground) — but all three products created their files much more quickly than a PostScript laser printer took to print the same document (12.5 minutes). In terms of screen-display times, Acrobat Exchange suffers when compared with Common Ground. A page from a PDF file can take several seconds to draw on-screen, making browsing frustrating.

Common Ground DigitalPaper files were always much larger than PDF files, due to the product's lack of an internal compression engine. However, we were able to shrink the DigitalPaper files to approximately the same size as the PDF files by using Aladdin Systems' StuffIt.

The Bottom Line

The promise of digital document distribution is enticing, but neither Acrobat nor Common Ground delivers the perfect combination of affordability, resolution-independent fonts and graphics, and sophisticated navigation features.

Still, despite Acrobat's prohibitive pricing and memory requirements, slow

screen redraw, and hassles in maintaining hypertext links, the Adobe product offers the most potential power for distributing sophisticated electronic documents. With navigation tools such as hypertext links and thumbnail previews, PDF documents have clear advantages over their paper counterparts.


With the \$695 Distiller, Acrobat also offers resolution-independent reproduction of fonts and EPS graphics, although you need to work from PostScript files to fully access these capabilities. Overall, for corporate users who want to create easy-to-navigate electronic documents, the Acrobat family of products is clearly the better choice.

For individual users who don't need the complexity and advanced features of the Acrobat products — or their expense — Common Ground is a better choice. It doesn't have sophisticated document-navigation controls, nor does it provide output at resolutions higher than 300 dpi, but it does come with a free miniviewer. And although Common Ground doesn't provide automatic file compression, you can use third-party compression utilities to shrink files to a reasonable size.

Additionally, with its password and encryption options and exact imaging of source fonts, Common Ground may be a good choice for graphics designers and other service-bureau patrons.

— Gregory Wasson

Table 1: Deciding on a Digital-Publishing Product

	 Pros	 Cons	 Ideal Users
Adobe Acrobat (Acrobat Distiller, Acrobat Exchange, Acrobat Reader)	<ul style="list-style-type: none"> • Sophisticated navigational features (hypertext, thumbnails). • Resolution-independent file format. • Automatic file compression. • Text annotation. • Proven cross-platform capabilities. 	<ul style="list-style-type: none"> • Expensive; no free viewer. • Font substitution doesn't faithfully mimic some fonts. • Memory hog. • Slow screen redraw. • No security options. • No sound options. 	<ul style="list-style-type: none"> • Corporate users requiring easy navigation in complex documents such as product manuals.
Common Ground	<ul style="list-style-type: none"> • Free viewer for embedding in documents. • Modest memory requirements. • Exact font images. • Security options (passwords, encryption). • Sound-annotation option. 	<ul style="list-style-type: none"> • No sophisticated navigational features. • Not resolution-independent (300 dpi maximum). • No automatic file compression. • No text annotation. • No cross-platform capabilities (at press time). 	<ul style="list-style-type: none"> • Individual users with documents that don't require hypertext navigation. • Users requiring secure document distribution.

NETWORKING & CONNECTIVITY

EMBARC for the PowerBook

*Motorola's wireless information service keeps
PowerBook users well informed.*

Riding the first wave of wireless communication technology, Motorola's EMBARC for the PowerBook aims to keep mobile users as informed on the road as they are in the office. The EMBARC kit comprises a pager and messaging software that lets you set up wireless communication between your PowerBook and the Motorola EMBARC wireless network. The network currently offers communications-distribution services such as e-mail delivery, specialized news briefs, and database updates to mobile computer users in more than 200 metropolitan areas in the U.S. and Canada.

Where the PowerBooks Roam

EMBARC stands for Electronic Mail Broadcast to A Roaming Computer. The kit's hardware component is a small Advanced NewsStream Information Receiver that connects to either of your PowerBook's serial ports. The receiver continuously monitors specific radio frequencies, flashes an LED when you receive a message, and either downloads the data to your PowerBook or stores it in its 32K memory buffer. Once you've configured the software, retrieving messages is as simple as plugging the receiver in to the PowerBook and turning on the computer.

The EMBARC software, which consists of a control panel and an application, is a bit rough around the edges. You use the control panel to regulate communication between the NewsStream receiver and your PowerBook. One inconvenience is that if you're already using both of your PowerBook's serial ports — one for a modem and one for your LocalTalk network connection — you'll need to turn one of these connections off to use EMBARC.

You use the EMBARC application to read, compose, answer, send, and delete mail. Notably absent is a facility for automating common tasks, such as logging on to the central switch, sending messages, downloading new messages,



EMBARC for the PowerBook
Manufactured by: Motorola
 EMBARC Communication
 Services, 1500 N.W. 22nd
 Avenue, Boynton Beach, FL
 33426; 800-362-2724.
List Price: \$435 (one-time user
 setup charge, \$25).

and logging off. In addition, deciphering the EMBARC software's X.400 addressing scheme and figuring out how to send messages from your current e-mail program through an EMBARC gateway aren't trivial tasks.

For almost instantaneous message delivery, you may want to consider using your modem to dial directly in to the EMBARC switch, rather than going through your e-mail system. Calling the switch enables you to send as well as receive messages. And only users who dial directly can take advantage of EMBARC's Priority (15 minute) or Express (one hour) guaranteed delivery times. The Express messages we sent when connected directly to the EMBARC

switch were received only minutes after we'd sent them, whereas messages that went through gateways took several hours. For a lower rate, you can send messages Standby, which provides delivery by 5 A.M. the next day.

EMBARC supports individual itineraries for all users, a feature unique to Motorola's system. Users traveling outside their home-base areas tell the EMBARC network where they'll be and when, and the central switch broadcasts their messages to the appropriate areas.

EMBARC's most compelling feature is its ability to broadcast information — including a wide selection of specialized news services — to mobile users. To showcase this capability, Motorola provides news and weather briefs from *USA Today* free to all EMBARC subscribers. Organizations looking for a way to communicate to a widespread mobile workforce can also use EMBARC to deliver rapidly changing data quickly and inexpensively. Recipients each pay a flat rate of \$18 per month, which entitles them to 30 minutes of no-additional-charge switch connect time, 100K of message storage at the switch, free delivery of messages, and delivery of the *USA Today* news and weather services. Only the sender pays for message transmission. Charges are based on the size of the message, the delivery priority, and the number of regions to which the service needs to be broadcast.

The Bottom Line

With EMBARC for the PowerBook, Motorola takes an important step toward fulfilling the promise of wireless information delivery. Companies looking for a way to quickly and inexpensively distribute proprietary information to their growing mobile workforce will welcome EMBARC's capabilities. And PowerBook owners who need to be in the know will benefit from the ability to receive news and data on the road without having to dial in.

— Mark Bieler



You use this control panel to tell the EMBARC software which port the receiver is connected to and when to activate the pager and to choose how your PowerBook notifies you when you receive messages.

FINANCIAL MANAGEMENT

Quicken 4 for Macintosh

*New investment-management features make Quicken 4
the last word in personal-finance software.*

Boasting more than 100 new enhancements, the latest version of Quicken is far more than just another upgrade. Quicken 4 for Macintosh leapfrogs the DOS and Windows versions of the program, providing several features not available in those versions. Moreover, with the addition of investment tracking, access to electronic credit-card statements, enhanced charting, and loan amortization, Quicken 4 significantly lengthens its lead as the front-running personal-finance program.

Easier Than Paper

Although Quicken 4 has several software rivals, including MECA's Managing Your Money and Aatrix Software's Checkwriter Pro, its real challenger is paper-based personal accounting. Quicken's success at luring people away from their check stubs and ledger books is due to two basic design assumptions.

First, you don't have to be an accountant to use the program effectively. You write checks, pay bills, track credit charges, and record cash transfers on-screen just as you do on paper. But under the hood, Quicken runs a thorough double-entry accounting system with powerful reporting capabilities. In short, you attend to your affairs as usual, and Quicken provides the accounting expertise.

Second, Quicken's check printing, electronic-payment capabilities, and new IntelliCharge electronic credit services win hands down at providing a faster and more efficient means of managing your finances than the pencil-and-paper method.

Version 4's new features reinforce Quicken's twin goals of familiarity and efficiency. The time-saving QuickFill feature accelerates data entry by referring to previous transactions and



Quicken 4 for Macintosh
Published by: Intuit, 155 Linfield
Avenue, P.O. Box 3014, Menlo
Park, CA 94026; 800-624-8742
or 415-322-0573.
List Price: \$69.95.

filling in fields automatically. For example, once you've typed a few characters into a field, QuickFill searches previous entries and completes the current entry if it finds a match. If the match is incorrect, you can continue to type additional characters and QuickFill will narrow its search.

Even better, you can create automatic transactions for groups of expenses that occur regularly, such as cash transfers, income deposits, and mortgage and utility payments. At the time intervals you choose, Quicken 4 adds the transactions to your register and, if you wish, automatically issues the checks or electronic payments.

With the new Transfer Money command, you can move cash from one account to another without the hassle of

double-entry accounting. You simply enter a transaction description, the date of the transfer, and the dollar amount. Pop-down menus permit you to select the source and destination accounts. Quicken 4 records the credit and the debit in the appropriate accounts.

Version 4's loan-amortization features make loan tracking easy too. Quicken 4 calculates payment schedules—including interest and principal paid—and updates loan balances for fixed- and variable-rate loans, prepayments, negative amortization, and balloon payments.

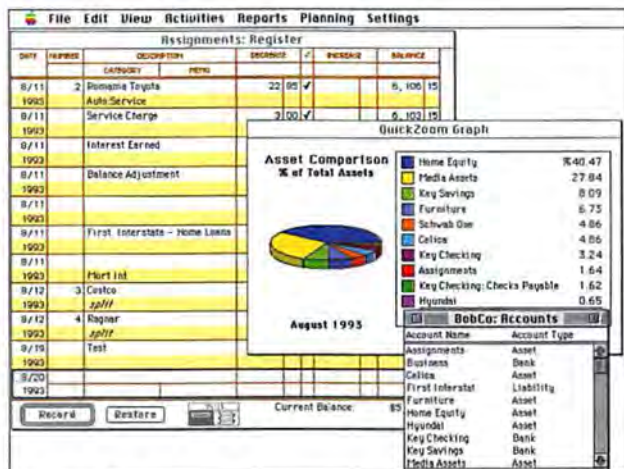
The previous version of Quicken already addressed the inconvenience of check writing by providing modem access to the CheckFree electronic-check-payment service. For a monthly service charge of about \$10 for 20 transactions, Quicken automatically establishes a modem link with the CheckFree Processing Center and issues electronic payments to the vendors of your choice.

Charge It

Quicken 4's IntelliCharge service brings a similar level of automation to your Visa account. If you hold a Quicken

Visa Gold card and you subscribe to the IntelliCharge service, you can receive monthly electronic credit-card statements and import them directly into Quicken. IntelliCharge statements are mailed on-disk for a monthly fee of \$4.50, or you can download them, using Quicken and a modem, for \$3 per month. The first six months' statement delivery is free, and there's no annual charge for the Quicken Visa card. A Quicken Visa request certificate is provided with the package.

If you manage an investment portfolio, Quicken can assist you in this capacity as well. Quicken 4's extensive



Quicken 4 for Macintosh helps you manage every facet of your personal finances. The new QuickZoom feature lets you quickly examine the elements in your reports and charts in detail.

Introducing Astound. It's kinda like. Well, sorta like. Actually, it's nothing like Persuasion.

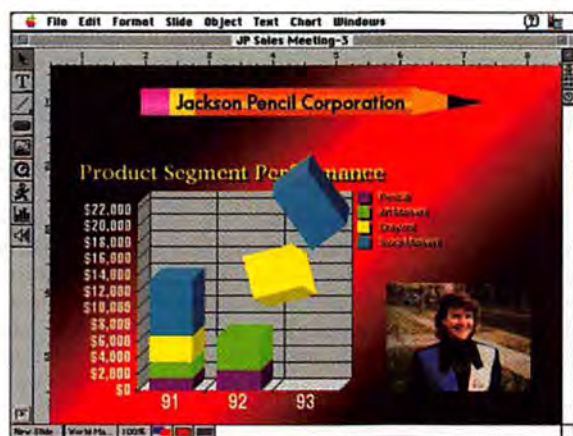
At first glance, it appears that Astound works just like Aldus Persuasion*.

After all, it lets you create all your smart-looking slides, overheads, and notes using the tools and interfaces you're already familiar with.

But that's where the similarities begin and end.

Because with Astound, you can then add the newest features in multimedia to your "static" materials, and create presentations that are truly a moving experience.

It's hard to get the full effect here, but with Astound's built-in sound and QuickTime* editors,



Unlike Persuasion, Astound lets you pick from dozens of animated text, graph and chart transitions to add interest and emphasis to your presentations. In fact, any object can be animated "on-screen" with just a few clicks.



With Astound, you can now easily add real time narration, and even edit music and sound effects. Just try that with Persuasion.

animated charts, graphs and text, runtime players, and real time narration you can do more than persuade people. You can blow them away.

And you can do it all using the methods you already know, with your existing hardware to create new presentations or give new life to old ones. (Which can be imported from both Persuasion and PowerPoint*.)

No wonder MacWeek recently downgraded Persuasion to a three-star rating, while ranking us first

in the category*. And why the editors at *Publish Magazine* said, "Its outstanding power, versatility, and simplicity make it an excellent buy."

Astound sells for just \$399, and with



Recently, MacUser gave Astound 4 1/2 mice, out-ranking Persuasion.

our special limited time competitive upgrade, you can switch today from any current presentation product for only \$99†.

Or if you'd like, we can send you a free demo disk, so you can see Astound in action.

Either way, call us for all the details at 1-800-465-3375. Then see for yourself where Persuasion ends and Astound begins.



GOLD DISK

*MacWeek, July 5, 1993. †Offer expires 12/31/93, and requires proof of competitive products ownership. ©1993 Gold Disk Inc. Astound and Gold Disk are trademarks of Gold Disk Inc. Persuasion, PowerPoint and QuickTime are trademarks or registered trademarks of Aldus Corp., Microsoft Corp., and Apple Computer Inc., respectively.

CIRCLE 45 ON READER SERVICE CARD.

Kai's POWER TOOLS™ AWESOME!

RATED
NEW MEDIA
MAGAZINE



AWESOME
JUNE 1993

That's what
imaging experts
have been
saying!

New!
Version
2.0
with
COLOR-IT!

The most powerful plug-in filter extensions ever created just got better! Real-time previews, channel operation apply modes, step-thru preset viewing, optimized performance — this is just a small list of the new features in KPT 2.0. The Gradient Designer, Texture Explorer, Gradients on Paths, Fractal Explorer and 29 other plug-in filters have been redesigned and provide more capabilities than most people will discover in a lifetime!

For a limited time, Kai's Power Tools 2.0 includes COLOR-IT!, the award winning 32-bit image processing/paint program FREE. And if you own Photoshop, Painter, Canvas, or other plug-in compatible programs, plug KPT in and experience a creative rush!

AS FEATURED ON
CNN
FUTURE WATCH

WSC
HSC SOFTWARE
(310) 392-8441
(310) 392-6015 fax

MacUser
MacWeek
Publish
★★★★★
★★★★★

Available from quality resellers
everywhere including
Computer City • 800-826-3928
ComputerWare • 800-326-0092
CIRCLE 53 ON READER SERVICE CARD.

NEW ON THE MENU REVIEWS

new features for stock-portfolio and mutual-fund management support virtually every type of investment, including stocks, bonds, real-estate investment trusts, IRA and Keogh accounts, cash-management accounts, money-market funds, CDs, treasury bills, 401K plans, and real estate.

Consistent with Quicken's ease of use, Intuit has built the program's investment support around a group of QuickForms, which prompt you for the necessary information as you enter investment transactions, such as buying and selling stocks and reinvesting dividends. Experienced traders may want to enter investment information directly into an account register.

Investment Analysis

Quicken 4 provides a slew of new 2-D and 3-D charts for tracking and analyzing investment performance and financial transactions. For example, Quicken 4 can graph stock prices based on value updates you key in or import directly from an electronic stock-quote service.

The program's convenient QuickBrowse feature displays the exact value of a chart element when you double-click on it. Similarly, double-clicking on an element in a Quicken chart or report enables the QuickZoom feature, which lets you examine the transaction details represented by the selected element.

Five new financial-planning calculators — for loans, retirement, savings and investment goals, mortgage refinancing, and college savings — provide even more analytical power. Like the QuickForms, these planners prompt you for information and then display the course of action you need to take to achieve your financial goals. You can perform what-if calculations to evaluate different options.

If you need to exercise some spending controls, the new QuickBudget feature lets you examine your existing transaction data and generate a sample budget based on your financial history. Once you've seen what you've spent over the past year, it's easier to set realistic goals for the upcoming year.

Additional enhancements include improved links to tax-preparation programs, a report that lists transactions according to IRS tax-form line items, numerous interface refinements, and the ability to resize and reformat reports.

Quicken 4 comes with a thorough

Quicken 4 boasts new features for financial planning for retirement, mortgage refinancing, and so on.

(400+ page), well-written manual, but the program is so easy to use that many users will find themselves up and running before they've even cracked the documentation.

In addition, the slim 64-page *Business Users' Guide* advises you on how to use Quicken 4 to manage the finances of a small business. Unless you're running a one-person shop or have fewer than five employees, however, Quicken is probably not the best choice for small-business accounting.

Quicken 4 supports System 7's Balloon Help, publish (but not subscribe), and TrueType fonts. Intuit's Qcards provide context-sensitive on-line help.

Surprisingly, Quicken 4 delivers all of its new features for the same \$69.95 retail price of the previous version (Quicken 3 owners can upgrade to the new release for \$29.95 plus shipping). At that price, Quicken 4 is as cost-effective as it is powerful.

The minimum configuration for Quicken 4 is any Macintosh with System 6, 2 megabytes of RAM, and a hard drive.

The Bottom Line

For those still managing their checkbooks with pencil and paper, Quicken 4 for Macintosh makes a compelling case for switching to computer-based personal finance. The program's well-designed interface, comprehensive feature set, and excellent documentation and on-line help make the switch nearly painless, even for novices.

Veteran Quicken users will discover that Intuit has significantly broadened the program's scope with version 4. No longer must users resort to using a second software program to do their investment planning and tracking — Quicken 4 has portfolio- and mutual-fund-management features built in. Who could ask for more?

— Bob Lindstrom

"My choice for LocalTalk."



TurboNet ST connectors feature traffic indicators that show signal presence and strength.

Connects separate LocalTalk networks for better information sharing.



\$199⁹⁹

TurboBridge
LocalTalk Network Router



"Great management software."
— MacWEEK

Offers 16 ports that
allow four users each —
64 users total!

\$14⁹⁹

TurboNet ST
Connectors for LocalTalk
TurboNet Ten Pack Only
\$119.99
TurboNet Fifty Pack Only
\$499.99

Manufactured under patent license
from Paralink Computing, Inc.

Red and green LED
indicator lights let you
quickly check the status
of all network ports.

\$474⁹⁹

TurboStar
16 Port Intelligent Hub

Special Price

\$429⁹⁹

When you order
TurboNet 10-pack



FREE!
**A \$129
Value!**



Guy Bourassa
Math Teacher
Hazardville Memorial
Elementary School
Enfield, CT

"As an educator and a network manager for the district, I have to make the right choices for the schools and the kids on a limited budget. As vice president of the Hartford Users Group, I reviewed many other companies and decided to buy all I need for my LocalTalk, Ethernet and telecommunication solutions exclusively from FOCUS. What really makes FOCUS stand out for me is their total commitment to my satisfaction. Their service is unbeatable. When I had questions, they were just an easy phone call away. They've earned my trust and now I wouldn't consider buying from anyone else."



Upgrading or expanding your LocalTalk network? Buy from a company that gives you the best value your money can buy, and supports you all the way — FOCUS Enhancements. Whether you are buying your first TurboNet connector or your fifth TurboStar Hub, our customer advisors are ready and trained to answer your questions, technical or product specific. We've made the TurboNet connectors and FOCUS Enhancements TurboStar Hubs easy to install and designed to practically operate themselves. For example, the TurboStar Hub automatically activates all ports on power-

up. If a port jams, the TurboStar disengages it, then reconnects it when the jam is cleared. You can manage your network from any Mac without spending money on a dedicated server. The more our products do for you, the less time you spend troubleshooting your network. Which leaves you more time to look through our catalog for more great values!



To Order And Get Your Free Catalog:
800-538-8862

FOCUS
enhancements



How to Order: Our customer advisors will help you Monday thru Friday 8am to 9pm, Saturday and Sunday 11am to 5pm EST. We accept Visa, MasterCard, American Express, Discover, Cashiers Checks, and Money Orders. FOCUS Enhancements, Inc. 800 West Cummings Park, Woburn, MA 01801 (617) 938-8088 fax 938-7741 You can also contact us at the following electronic addresses: 71075.1262 on CompuServe, FOCUS TECH on America Online, FOCUS on AppleLink or focus@applelink.apple.com on Internet.

©1993 Focus Enhancements, Inc. All rights reserved. All FOCUS Enhancements products are registered trademarks of FOCUS Enhancements, Inc. All prices and items are subject to change and availability. All product names are trademarks of their respective holders.

ABSOLUTE CONTROL OVER YOUR SERVERS. FROM ABSOLUTELY ANYWHERE.



INTRODUCING GRACELAN™ SERVER MANAGER FROM TECHWORKS

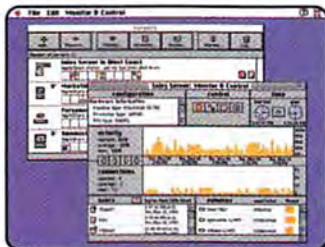
Wasting too much quality time at your AppleShare servers? Now you can manage multiple servers from any Mac on your AppleTalk network. Or even remotely, over the phone lines. And you can do it with more control than ever before.

KEEP DOWNTIME TO AN ABSOLUTE MINIMUM

GraceLAN Server Manager is the only AppleShare server management software that lets you reconfigure users and groups remotely without shutting down AppleShare. Status alarms keep you posted on disk space shortages, server crashes, backup problems and more.

WORK WITH ABSOLUTE CONFIDENCE

Server Manager is the newest addition to the GraceLAN Professional Series, the most complete suite of network management software for AppleTalk networks. It fully supports AppleShare 3.0 and later,



Server Manager tracks server activity across your entire network and gives you complete remote control over multiple servers.

GraceLAN and GraceLAN Server Manager are trademarks of Technology Works, Inc. Apple, AppleTalk, and AppleShare are registered trademarks of Apple Computer Inc.

including AppleShare 4.0 and AppleShare Pro for Apple's new Workgroup Servers. And like every GraceLAN product, it features an elegant, intuitive interface that makes it remarkably easy to use.



FREE DEMO! 1-800-568-6712

Resellers call 1-800-171-1720 for your free sales package.

Get your hands on GraceLAN Server Manager today. And see how absolute control can thrill absolutely. Call 1-800-568-6712 for your free demonstration disk.



TechWorks • 4030 Braker Lane West • Suite 350 • Austin, TX 78759 • Phone: 512-794-8533 • Fax: 512-794-8520

CIRCLE 129 ON READER SERVICE CARD.

NETWORKING & CONNECTIVITY

AppleShare Pro and Apple Workgroup Server 95

Unfriendly software tools compromise dedicated server's speed gains.

Apple's first foray into the dedicated-server arena doesn't merit any standing ovations for usability, but it's sure to speed up your Mac network. The company's new dedicated server comprises AppleShare Pro 1.0 software running on the Apple Workgroup Server (AWS) 95 — a Quadra 950 equipped with a preinstalled PDS (processor-direct slot) SCSI card, a high-capacity hard drive, and at least 16 megabytes of RAM.

The AppleShare Pro software is a hybrid of A/UX 3.0.1 (Apple's version of UNIX) and new server software. The A/UX component brings several advantages to AppleShare, including preemptive multitasking, a fast file system, improved file-system caching, and support for the AWS' enhanced SCSI system. The server software provides additional caches for Mac-specific information about icons, folders, and files.

When you boot the server, A/UX takes over, reserving half of the installed RAM for itself. The other half goes to AppleShare and the Finder, which both reside on top of A/UX. According to Apple,

AppleShare Pro 1.0 and Apple Workgroup Server 95

Manufactured by: Apple Computer, Inc., 20525 Mariani Avenue, Cupertino, CA 95014; 408-996-1010.

List Price: \$11,639, fully configured (includes a Quadra 950 preinstalled with A/UX and AppleShare Pro software, 32 megabytes of RAM, a 1-gigabyte hard drive, a DAT drive, and a Workgroup Server 95 PDS Card with a 512K second-level memory cache).

this top layer is designed to insulate network administrators from UNIX, except when they're required to do maintenance and disaster recovery.

On the hardware side, the AWS 95's PDS card gives Apple's new server a faster SCSI port than the Quadra 950's. With the card's DMA (direct-memory access) capability, the AWS 95 can read data from and write it to SCSI devices

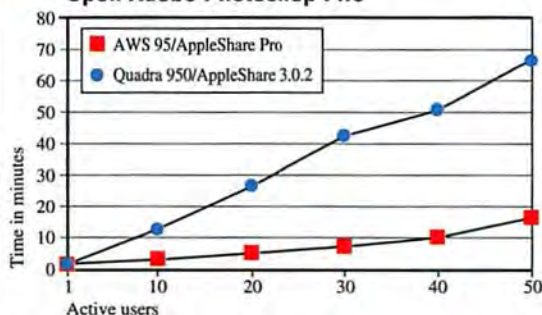
without using the Mac's 68040 CPU, freeing the 68040 to perform file-server tasks. The PDS card also comes with a 128K second-level RAM cache (upgradable to 512K). A fully loaded AWS 95 costs \$11,639.

We tested Apple's dedicated file server on networks consisting of 1 to 50 clients. Installing the A/UX and AppleShare Pro software from the supplied CD-ROM is easy: In addition to installing the operating system, the well-designed installer lets you format and partition hard disks. The Easy Install option takes care of all the basics, but this option excludes installation of many UNIX tools as well as the on-line A/UX documentation. The omission of the tools and documentation may come back to haunt you if you run into trouble later.

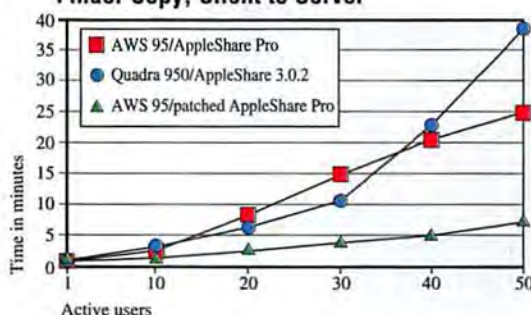
Creating and modifying users and groups is the same as with the previous version of AppleShare (AppleShare 3). In fact, the only visible differences are the Pro version's added options for adjusting icon-, file-, and folder-cache sizes. AppleShare Pro's method of defining

AppleShare Pro and AWS 95 Performance

Open Adobe Photoshop File



Finder Copy, Client to Server



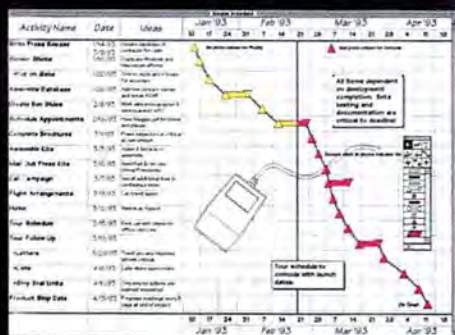
AppleShare Pro teamed with the AWS 95 offers significant speed advantages over AppleShare 3.0.2. We tested Apple's dedicated server on networks consisting of 1, 10, 20, 30, 40, and 50 clients. The AWS 95 was faster — considerably so on larger networks — than an AppleShare 3-equipped Quadra

950 at opening a 20-megabyte Adobe Photoshop file (left). Photoshop itself resided on the client Macs. Although AppleShare Pro is fast, however, it's not perfect. Apple offers a software fix that vastly improves performance with Finder copy operations from client Macs to the server (right).

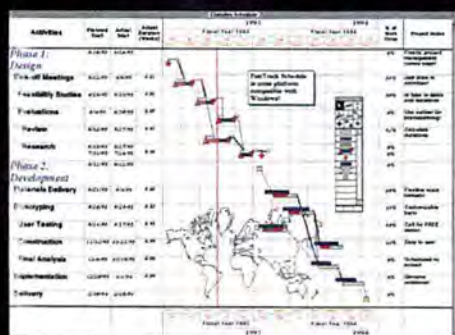
It's about Time!



And Projects!



And Schedules!



FastTrack Schedule™ for Macintosh®, NeXT® & Windows!

Finally, a Gantt chart and milestone scheduling tool with power. Just draw in activity bars, or type in dates, or even import them!

FastTrack Schedule is also about flexibility and simplicity, and for our tens of thousands of Macintosh customers, now, all files can be transparently converted to and from Windows!

Call now for a FREE demo kit!
(800) 346-9413 or (703) 450-1980

AEC
SOFTWARE

CIRCLE 16 ON READER SERVICE CARD.

NEW ON THE MENU REVIEWS

"sharepoints" — folders that appear as server volumes to users — is also identical to AppleShare 3's.

Compared to AppleShare 3 running on a Quadra 950, the AWS 95/AppleShare Pro combo is speedy. We tested several configurations of the AWS 95 and AppleShare Pro and compared the results with those of a similarly configured Quadra 950 running AppleShare 3.0.2. Tests consisted of Finder copy operations to and from the server as client Macs generated background network traffic.

On the 50-client network, copying a file from the server (reading) to a Mac IIci client was more than eight times as fast with the AWS 95 and AppleShare Pro, although copying a file to the server (writing) with the AWS 95 showed only about a 50-percent speed gain over the Quadra running AppleShare 3.0.2. Turning off the AppleShare Pro caches boosted the write speed significantly, though, which pinpointed the caches as the problem.

A software patch from Apple brought the dedicated server's write speed back on track, however: Further tests with the patch showed a fivefold improvement over AppleShare 3. (You can get the fix, called AWS 95 Tune-Up, free through Apple's technical-support service [800-767-2775] and from dealers.)

One benefit of harnessing UNIX file services for AppleShare Pro is that they're much faster than those of the Mac operating system. But AppleShare Pro usability clearly suffers from its UNIX underpinnings. If you plan to use the AWS 95 server strictly as configured by Apple, your contact with the arcane world of UNIX should be minimal. But if you need to add a hard drive (a likely occurrence if you're maintaining a high-performance file server) or perform disk maintenance, you'll find yourself wrestling with the UNIX command-line structure. If you used the Easy Install option when you first configured the server, the absence of on-line UNIX documentation will further hinder your progress.

Because AppleShare Pro uses the UNIX file system, Mac hard-disk diagnostic tools such as Fifth Generation's Public Utilities, Central Point's MacTools, and Symantec's Norton Utilities for Macintosh don't work with the AWS 95. In their place, A/UX supplies a standard UNIX tool called *fsck* (file-system checker), but no Mac interface for this

tool is included. Even worse, A/UX requires that you type a command to prepare the server for *fsck* — this is a process that would be better handled by the installer. Had Apple provided even a rudimentary interface for the only file-system-recovery tool available for the AWS 95, the server would be a far friendlier machine. In addition, UNIX is much more fragile than the Macintosh operating system. Because so much data is cached by A/UX, a power failure or a simple, accidental punch of the reset button can cause a disk's data to be irrevocably lost.

To help you circumvent data-loss problems, Apple ships Dantz Development's Retrospect Remote 2.0 for A/UX with the AWS 95. Retrospect takes full advantage of the AWS 95's fast SCSI port for optimal backup speed. Four of the five standard AWS 95 configurations come with a built-in DAT drive for backup.

One final caveat: You must install (or reinstall) A/UX and AppleShare Pro from a CD-ROM; you cannot install from floppy disks. Ironically, however, not one of Apple's five AWS configurations includes a CD-ROM drive.

Only the \$11,639 configuration of the AWS 95 comes with the AppleShare Pro software; for other configurations and for the \$2,499 Quadra 900/950 upgrade package, you must purchase the \$2,499 software separately.

The Bottom Line

The AppleShare Pro/Apple Workgroup Server 95 package offers significant speed advantages over its predecessor. However, because the server forces network administrators to deal with a complex and unwieldy UNIX-based file-recovery tool, the product is much less straightforward to use than a standard AppleShare server.

Moreover, at \$11,639 for the top-of-the-line AWS 95 dedicated server, the product is pricey. Nevertheless, for those who are willing to cope with the additional hassles involved in setup and maintenance in order to gain a boost in speed, using Apple's dedicated-server software is an improvement over using previous software and it's much easier to set up and maintain than the Novell NetWare alternatives.

— Stephan Somogyi

Julie Baher and Jeff Davis of ZD Labs managed the testing for this review.

Announcing the
first personal computers
that will send faxes,
read you your mail,
take phone messages
and work with
your video camera,
VCR and TV.



anything you tell them to.

"Computer, open my word processor."

Now work the most intuitive way. With Apple PlainTalk™ AV computers (here, the Macintosh Quadra 840AV) can recognize spoken commands—you just speak naturally. We've also included QuickKeys OSA Component software, so you can create your own verbal commands, like "Computer, open my word processor."

"Computer, start video."

Just plug a video camera, VCR or laserdisc player into the back of either AV computer. The FusionRecorder software included lets you easily capture video and single-frame snapshots, or record 16-bit stereo sound. You can paste your videos directly into presentations, documents or any software that supports QuickTime™.

"Computer, display Macintosh on TV."

You can play video right on your AV computer monitor for easy presentations to coworkers, clients or a class. You can also plug either machine into a TV, if you need a larger display. Or plug into a VCR, and record your work on videotape for distribution.

"Computer, play CD."

Add the AppleCD™ 300i disc drive to either machine, and you can access huge libraries of clip art, sound effects, video clips and more. Or just play your own music CDs while you work.

The Macintosh Centris 660AV and Macintosh Quadra 840AV

You've probably read that telephones, computers, television and other technologies will converge soon.

This is where they meet. Introducing the Macintosh Centris™ 660AV and Macintosh Quadra™ 840AV personal computers. These two computers offer a suite of communication capabilities called Apple® AV Technologies: a telecommunications center, easy video input/output connections, voice recognition and text-to-speech abilities.

For the first time, use a Macintosh® to pick up phone messages with a point and click, record video by plugging in a



Apple AV Technologies.

Telecommunications, video, speech — all the ways you communicate.

video source, and open a file by saying, "Computer, open."

Many of these new functions are sped along by a digital signal processor (this chip flies through data at the rate of 55 MHz in the Macintosh Centris and an even faster 66 MHz in the Macintosh Quadra).

With a 25 MHz 68040 processor and up to 68MB of RAM, the Macintosh Centris has the horsepower required to breeze through huge spreadsheets and documents. And there's room to add a 500MB internal hard disk, a CD-ROM or SyQuest drive and a NuBus expansion card.

The new Macintosh Quadra will make publishing, graphic design and other communications professionals salivate. Its 40 MHz 68040 processor and up to 128MB of RAM make it the most powerful Macintosh ever. And it has room for a gigabyte of hard disk storage, four internal storage devices and three NuBus expansion cards.

Best of all, you can get a Macintosh with Apple AV Technologies starting at \$2,489*. Once again, Apple puts the most amazing kind of power within your reach. The power to be your best.™



In fact, they'll do just about

"Computer, call Michelle Dunn."

With Apple GeoPort, you can turn your AV computer (in this case, the Macintosh Centris 660sx) into a telephone and an answering machine. The hands-free phone lets you do work on-screen while you talk. And both computers have ES-F2F software, so all you need is a video camera to hold a video-conference across a local area network.

"Computer, read me today's mail"

These computers will actually speak to you, reading aloud your e-mail, documents or spreadsheet numbers. Our new Apple AudioVision™ Display, with its sensitive microphone and built-in speakers, is the perfect all-in-one monitor for speech capabilities, multimedia presentations and more.

"Computer, fax letter to Steve Wingate."

Forget the fax machine. The optional Apple GeoPort™ Telecom Adaptor includes fax and modem software—everything you need to send and receive faxes from your desk or use on-line services. And both computers let you try out ExperFax, an application that converts your faxes into text.



ANIMATION

Working Model

Knowledge Revolution's animation tool simulates real-world forces.

Not a company to rest on its laurels, Knowledge Revolution has gone one step further in the area of motion simulation with the introduction of Working Model, a follow-up to the company's award-winning Interactive Physics simulation program. Whereas Interactive Physics targets college-level physics teachers and students, Working Model's accuracy, sophistication, and support for importing and exporting CAD files make it a worthy tool for engineering motion analysis.

The \$995 Working Model sets itself apart from the less expensive Interactive Physics by bringing a host of advanced



Working Model 1.0

Published by: Knowledge Revolution, 15 Brush Place, San Francisco, CA 94103; 415-553-8153.
List Price: \$995.

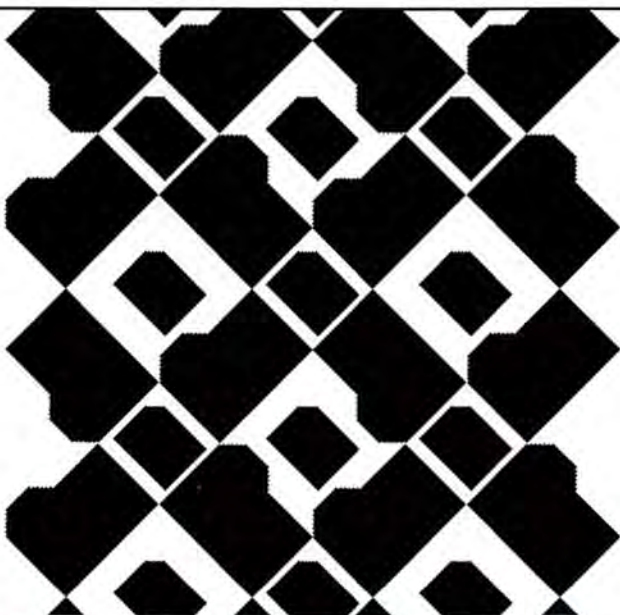
features to the table. The Smart Editor maintains the association of linked objects as you run a simulation, and Working Model supports 20-digit accuracy, compared with Interactive Physics' 8-digit accuracy. Support for interapplication communication through Apple

events enables Working Model to work with data in spreadsheet and database programs. And finally, Working Model can exchange files with CAD programs and can export animation files to 3-D-rendering programs.

You use Working Model's tool bar and menus to create objects and give them physical properties such as mass, friction, and elasticity. Environmental variables such as gravity (including universal gravitation), air drag, resistance, acceleration, and magnetic properties are all under your control.

You can create simple objects by using Working Model's tools, or you can

© 1993 Aladdin Systems, Inc. (415) 761-6200, (415) 761-6206 fax.



Because so much is riding on your computer.

Your hard disk is running on empty. Everything's vital, so you need more disk space. For millions, StuffIt Deluxe is the only safe choice. It's the complete compression solution—and even includes a free copy of StuffIt SpaceSaver.

StuffIt has been the industry leader since 1986, and we've never stopped improving. In fact, StuffIt Deluxe swept both major industry awards this past year. StuffIt is also the *only* compression product to receive the stamp of approval from all major online services. Byte Magazine has even called us "the most trusted name in compression."

Reviewers recommend it and our users swear by it. And so should you. Because when it comes to compressing your data, there's safety in numbers. Just StuffIt. StuffIt Deluxe.


Call your favorite mail order outlet or visit your local StuffIt Deluxe dealer today.



CIRCLE 17 ON READER SERVICE CARD.



WHEN IT COMES TO MEMORY, WE'D LIKE TO SAY WE HAVE AN EDGE OVER THE OTHER GUYS. BUT THE FACT IS, WE HAVE SEVERAL.

 There's one sharp distinction which makes TechWorks the leader in memory products: outrageous customer support that's a cut above. Unlike countless memory resellers, we manufacture our own memory modules. Right here in Austin, Texas. Each one backed by a lifetime warranty plus a 30-day, no-questions-asked money-back guarantee. And if you ever have a problem with any TechWorks memory, we'll ship a replacement to you overnight.

Call us today for a complete price list. And see why our competition is on edge. But our customers aren't.



We have all memory for all Macs.

TechWorks® is a registered trademark of Technology Works, Inc. • 4030 Braker Lane West, Ste. 350 • Austin, TX 78759 • Phone: 512-794-8533 Fax: 512-794-8520

CIRCLE 128 ON READER SERVICE CARD.



Don't like it? Return it.

It's just that simple.



Problem? We'll replace it.

Via overnight delivery.



Questions? We have answers. Just call us.



All our own memory.

All fully guaranteed.



It'll perform.

Or we'll replace it free.

FREE
MEMORY SOLUTIONS GUIDE
CALL NOW!
FOR COMPETITIVE PRICES!
1-800-421-7758

How 4.5 million changed the sh

Introducing EtherWave™ Daisy-chainable 10BASE-T.

We didn't just change the shape of Ethernet. We changed the ground rules.

Now, for the first time ever, you can "daisy-chain" computers and printers to a 10BASE-T network. Saving you time and money.

EtherWave is a complete family of cards, adapters and transceivers. All 100 percent compatible with 10BASE-T. True plug-and-play. In essence, the Ethernet equivalent of PhoneNET®—a Farallon innovation that's connected more than 4.5 million computers.

Save money expanding existing networks.

EtherWave cost comparison*	
Hub and card	\$789
EtherWave	\$229
Cost per node. (Includes pulling wire.)	
*The Yankee Group, 1993	

You need to add a node. And fast. But there's not a port available. That's why EtherWave products contain two self-terminating RJ-45 ports. So you can "daisy-chain" Macs, PCs,

PowerBooks and printers from a single hub port or wall jack. Saving you the hassle—and tremendous expense—of pulling more cable.

Build a small hubless network easily.

EtherWave also lets you quickly create small, ad hoc Ethernet networks without a hub. It's great for temporary workgroups. These networks can contain up to eight nodes, and can be connected to larger networks.

Add PowerBooks, printers and slotless Macs.

Now it's finally simple, reliable and affordable to add these types of devices—even the new Newton MessagePads—to Ethernet. Just plug the EtherWave adapter into the device's LocalTalk port, and connect it to another Mac, PC, or to a hub. For Macs and



Only EtherWave technology lets you "daisy-chain" 10BASE-T nodes from a single hub port or wall jack.

PowerBooks, an optional high-speed serial driver boosts adapter performance to better than SCSI speeds without the trouble.



Farallon users ape of Ethernet.

Based on industry standards. Of course.

All EtherWave transceivers, cards and adapters are built with everything our customers asked for—100 percent 10BASE-T compatibility first and foremost. Plus self-terminating ports, so you can add nodes without disrupting the network. A robust set of diagnostic LEDs. And power-off pass through, so shutting off a node doesn't shut off the network.

EtherWave products won't impact network reliability or repeater hop counts. And they all include a lifetime warranty.

The EtherWave family of products.

We offer a full line of EtherWave cards. Everything from Macintosh LC and NuBUS cards to cards for PCs. All include SNMP compatibility, industry-standard drivers, and diagnostic software.

We also have EtherWave transceivers for PCs, Macs, workstations and printers with Ethernet installed.

Plus EtherWave adapters for connecting PowerBooks, printers, and Macs without a slot. They feature a molded, flexible 1-meter cable so they can sit on the desktop, floor, or mount on a wall or computer.

In a nutshell, if you need it, we've got the solution.

Call 1-800-995-7761 ext.1 for our free white paper.

Stop reading this ad and start reading our free white paper. Simply call us today. We guarantee you've never seen anything like EtherWave. In any way, shape or form.

EtherWave part numbers: Mac NuBus card: PN890-TP; Mac LC card: PN892-TP; Mac LC card w/FPU: PN892-TPF; Mac/PowerBook adapter: PN840; printer adapter: PN842; Newton adapter: PN844; AUI transceiver: PN801; AAUI transceiver: PN802; PC-ISA card: PN880-TP. For customer service, call (510) 814-5000. Or contact us on America Online® or AppleLink® ID: Farallon. CompuServe® ID: 75410, 2702. Internet ID: Farallon@farallon.com. All trademarks are property of their owners. Farallon Computing, Inc. ©1993

CIRCLE 148 ON READER SERVICE CARD.

The Farallon logo consists of a stylized graphic of three small squares arranged in a triangular pattern to the left of the word "Farallon" in a bold, sans-serif font.

SO YOU'RE NOT SUPPOSED TO GET GOOD REPRO QUALITY FROM A DESKTOP SCANNER...

PRODUCTION NOTES

Picture scanned at 150%, 400 dpi

from a 4" x 5" transparency using the

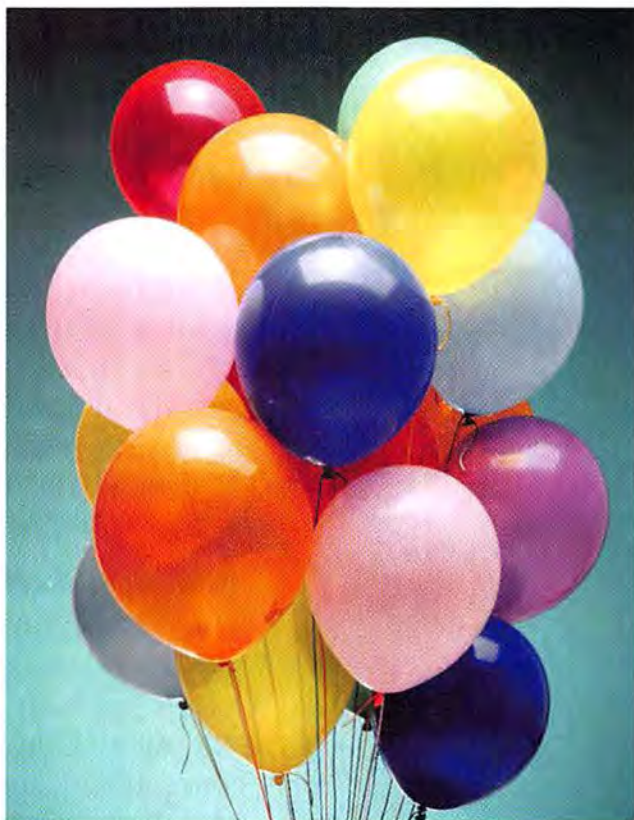
default settings. Final line screen was set

in Adobe Photoshop and exported as a

CMYK eps file. No color correction was

made. Film was output from a Quark file

at 133 line screen.



MODEL: RELI 9600DPI
LIST PRICE: \$3495.00
TRANSPARENCY UNIT: INCLUDED.



OOPS!

SCANNER BY RELISYS.

Yes, you can get wonderful color reproduction quality from a desktop scanner. Yes, you can walk into your next meeting with full, rich repros that live up to your designs. Introducing a full range family of desktop scanners designed for the designers! They're self calibrating, ready when you are, work long hours and produce incredibly accurate scanning for either the Macintosh or IBM PC platforms.

For more information call



1-800-944-8855 FAX: 312-549-6447

RELISYS
A subsidiary of TECO Corporation

CIRCLE 151 ON READER SERVICE CARD.

Macintosh is a registered trademark of Apple Computer, Inc.
IBM is a registered trademark of International Business Machines Corporation.
Quark is a registered trademark of Quark, Inc.
Adobe Photoshop is a trademark of Adobe Systems Incorporated.

import objects in DXF format. Unfortunately, Working Model doesn't let you import PICT files for use as object outlines. Once you've created an object and given it physical characteristics, you apply forces to it by drawing vectors. The vectors represent velocity, acceleration, and energy. On-screen digital meters let you monitor the strength of the forces. Once everything is in place, the simulation runs in real time as Working Model calculates the accurate motion of each object.

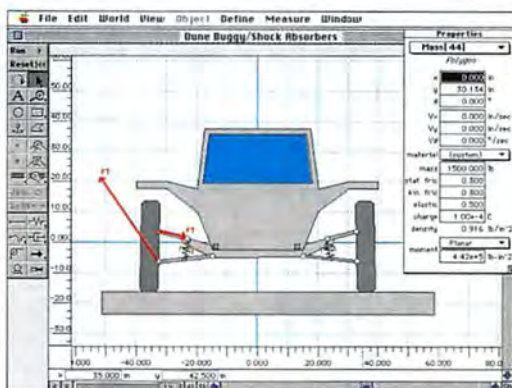
Working Model enables you to create surprisingly complex machines by linking many simple shapes. The program supports a variety of grouping and linking options including hinges, tracks, joints, ropes, rods, and various types of springs.

Smart Editor

The program's Smart Editor prevents a complex mechanism from breaking apart as its various components move during an animation. For example, you

can create a profile of a human figure composed of a body and joint-linked legs and arms. When you select and drag one of the figure's feet, Smart Editor preserves the relationships among the parts, allowing the program to create a realistic simulation of the resulting leg motion. By combining different types of constrained links, you can create a surprisingly wide range of sophisticated mechanical systems with little effort.

Working Model's simulations allow a high degree of interactivity. You can create buttons that trigger menu commands and other functions. Used imaginatively, this feature provides powerful animation capabilities. For example, you can create a button that switches views of a simulation or that pans the view in a specified direction.



Working Model lets you create sophisticated motion simulations. In the simulation shown here, the red lines with arrows represent forces that are being applied to the shock-absorber system.

You can manipulate sliders that change the parameters of an experiment as the simulation is running, which gives you real-time control over any aspect of a simulation. In addition to using digital meters, you can opt to use dynamic charts

GET READY TO EXPLODE, SHATTER AND ATOMIZE



Now you can create sizzling Hollywood-style movies on your Mac. The exclusive special effects Explode, Shatter and Atomize are only part of Strata StudioPro's incredible power. It offers fully integrated advanced spline-based modeling, award-winning rendering technology, and a sophisticated Event-Based Animation System; putting StudioPro in a class by itself. Along with these powerful features, StudioPro's graphical interface and dialogues are easy to use, making it a breeze to create stunning 3-D designs and animation's. If you're looking for professional 3-D tools you've found them in StudioPro. Call now to order StudioPro.



1-800-869-6855.


Strata, Inc. • 2 West St. George Blvd., Suite 2100 • St. George, Utah 84770 • (801) 628-5218

STRATA

CIRCLE 90 ON READER SERVICE CARD.

WE OFFER THE MOST PROTECTION FROM RUTHLESS CRIMINALS LIKE THESE.

CASE NO: 35219





NAME	Randy Hibbits		
AGE	39	WEIGHT	2
HEIGHT	5'7"	HAIR	Blk
EYES	Hazel	SEX	M

CASE NO: 63210




ARRESTING OFFICER	Danny Kim		
PLACE OF ARREST	Fairmont Drive		
CRIME	Computer Tampering		
	2 counts/started ZUC virus		

CASE NO: 38271

NAME	Doug Nester		
AGE	32	WEIGHT	164
HEIGHT	5'3"	HAIR	Blonde
EYES	Brown	SEX	M
ARRESTING OFFICER	Sgt. Hans Logie		
PLACE OF ARREST	Union Street		
CRIME	Computer Tampering		
	3 counts/started nVR		

and various software programs, you need SAM 3.5 anti-virus software.

You see, SAM will constantly monitor for 14 suspicious viral activities. Which is more than any other anti-virus program on the market. And it's the only

program that will scan compressed files in System 6.0 and 7.0.

So basically, if your Mac has a virus, SAM will detect it, get rid of it and repair the file. And if your Mac is virus-free, SAM will help to make sure it stays that way. Because it monitors your

Mac transparently, working behind the scenes, and only interrupting when a virus is found.

What's more, SAM is simple to install on a Macintosh networking* system, as well as a single-user Mac.

All you need to do is load the program disk, double-click on the Installer Icon and let SAM handle the rest.

For the most anti-viral protection, pick up SAM 3.5 at your local retailer. It's the most popular anti-virus program in the world, and will keep you from ever having to deal with this ugly crime. Or these ugly criminals.

Junkbond dealers? Drug lords? Savings and Loan presidents?

Nope, they're computer hackers. And judging by their physical appearance, you wouldn't think you'd need any protection from them. But you do. Or should we say, your computer does.

And to keep these criminally minded people from infecting your files, floppies



Winner of the 1993 MacWorld World Class Award.

SAMTM
Symantec AntiVirus for Macintosh
SYMANTEC.

that measure simulation parameters.

You can save your simulations as PICS files, QuickTime movies, or as Macromedia Three-D files complete with animation paths and extruded shapes. Once a simulation has been imported into Macromedia Three-D, you can replace Working Model's simple extruded shapes with more-complex models.

As an Apple-events-savvy application, Working Model lets you link simulations to external data-processing programs, such as Microsoft Excel. That means you can set up a process whereby data generated by a running simulation is automatically transferred to a spreadsheet. You can then manipulate the data and return it to Working Model.

Alternatively, you can directly access all the underlying math that drives a Working Model simulation and manipulate it to create more-complex scenarios. For example, you can create a realistic simulation of a rocket launch — as the rocket rises and gradually exhausts its fuel supply, it can get progressively

lighter and faster. Or, using Working Model's built-in random-number generator, you can simulate the effects of unpredictable winds in a sailing experiment.

To help get you started, Working Model includes various preprogrammed simulations. The documentation comprises a tutorial and a clearly written reference manual. The tutorial takes you step by step through the setup of several simulations, including the running of a piston engine and an earthquake.

The tutorial may be a bit overwhelming for those with limited knowledge of physics, but with a little practice, even novices will be able to build basic mechanisms. Unfortunately, the program's documentation of interapplication processing and custom math programming is weak and lacks sufficient examples.

Given the limitations of a personal computer compared with the power of a workstation or mainframe, Working Model's real-world simulations are impressive. The degree of accuracy they provide has limitations, however. For

example, if you create a ball, give it the property of rubber (one of the program's built-in object properties), and simulate the effect of throwing it against a wall, the ball will bounce off the wall but the actual shape of the ball won't deform the way it does in the real world. This isn't surprising — Working Model is already pushing the computational envelope of the Mac, and implementing this capability wouldn't be practical, given current Mac technology.

The Bottom Line

With its unique ability to simulate complex motion, Working Model will likely garner a loyal following among engineers and physics-savvy animators. Users can create realistic mechanical systems and animations as well as add interactive properties to simulations. At \$995, Working Model is a high-priced tool, but its power and flexibility make it well worth the cost for professional designers and animators.

— David Biedny

All Bernoulli® products up to

50% OFF

Product	Old SRP	New SRP	Product	Old SRP	New SRP
150MB MacTransportable Drive and Disk	\$975	\$699	Single 90MB Disk (in 5-Pack)	N/A	\$99
90MB MacTransportable Drive and Disk	\$713	\$589	Single 65MB Disk	\$129	\$99
Single 150MB Disk (in 5-Pack)	\$159	\$109	Single 35MB Disk	\$79	\$39
Single 105MB Disk	\$169	\$99			



Iomega's just been tagged the new low price leader for removable storage. We've cut prices permanently on the most reliable storage devices around—including the high-perfor-

mance MultiDisk™ 150 Drive*. See your dealer or call 1-800-756-3959.

IOMEGA®

*The Bernoulli MultiDisk 150 Drive can use 150, 105, 90, 65 and 35MB disks interchangeably. ©1993 Iomega Corp. The Iomega Logo and Bernoulli are registered trademarks and MultiDisk is a trademark of Iomega Corp.

CIRCLE 125 ON READER SERVICE CARD.

MAC
COMBO PACS

SUPRA VALUE MENU



OVER 500,000 SATISFIED CUSTOMERS

WILD NEW
PRICES!

MAC
PACKAGE



SupraFAXModem 144LC

14,400 bps fax and data. Full-featured Mac package.

\$189⁹⁵

MAC
PACKAGE

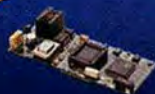


SupraFAXModem V.32bis

Top-rated 14,400 bps fax and data. Full-featured PC package.

\$249⁹⁵

MAC
PACKAGE



SupraFAXModem 144PB

Completely internal 14,400bps fax and data modem for PowerBooks™.

\$299⁹⁵

All extra value packages come complete with FAXstf™, MicroPhone LT™, and CompuServe Information Manager™. All cables and instruction manuals included. Sorry, does not include drink or fries.



CALL TODAY!
1-800-944-8772

All prices are estimated retail selling price, prices may vary.

All trademarks belong to their respective companies. 7101 Supra Drive S.W. Albany, OR 97321 USA • 503-967-2410 • Fax: 503-967-2401

CIRCLE 76 ON READER SERVICE CARD.

QUICK CLICKS



Safe Deposit



Safe Deposit Server



Dayna's Safe Deposit offers substantial peace of mind in return for very little effort. It makes it easy to configure backups, and once you've done so, Safe Deposit carries them out automatically and in the background.

Safe Deposit consists of a system extension and an application that takes a simple "what, where, when" approach to backup. You use the application to specify what you want backed up (specific files, folders, or volumes — local or remote — based on their names or System 7 labels), where you want it backed up to, and when (at specific times, when files are modified, at system shutdown, or whenever you mount a specifically named backup medium). You can vary the backup criteria from item to item — for example, backing up important folders continuously and other folders only once a day. The Safe Deposit extension performs the backups as specified, whether or not you have the application running.

You can back up to anything you can mount on your desktop: removable media, hard disks, or remote volumes. (You can't back up to tapes unless you use a product that mounts them on your desktop, such as Optima's DeskTape.) If you have AppleTalk Remote Access, you can set Safe Deposit to automatically back up your files to a remote server whenever you connect to that server. And, because Safe Deposit backs up files in Finder-readable format, it's easy to restore backed-up files. You can simply copy them, using the Finder, or have Safe Deposit restore them for you.

Safe Deposit does have some limitations, though. The dialog box it uses to notify you of what it's copying is modal, so you can't do anything else until the box goes away. Even if you turn notification off, background copying can be intrusive; your foreground application may lag noticeably, and backups are never much faster than Finder copying.

Also, Safe Deposit maintains backups of only your current files and folders; although this limitation keeps things simple, it means you can't use the program to clean old files off your hard disk and archive them for posterity.

A more artificial limitation prevents you from launching the standard personal version of Safe Deposit on a Mac that's acting as an AppleShare server. To gain this capability as well as the ability to back up files based on their users and groups, you need to buy Safe Deposit Server, which is otherwise the same as the personal version but costs more than twice as much. Although it would be handy to have Safe Deposit Server running on your AppleShare server and automatically backing up data as it's saved to the server, we're not sure this convenience is worth the much higher price — especially because you can use the personal version to back up a remotely mounted server from your desktop (a capability not mentioned in the manual).

Safe Deposit isn't the fastest way to back up your data, but it gives you a wide array of options in an easy-to-use package. If you're looking for bargain-priced automatic backup, the personal version is a wise choice.

Dayna Communications, Sorenson Research Park, 849 W. Levoy Drive, Salt Lake City, UT 84123; 801-269-7200. Safe Deposit, version 1.0, \$189. Safe Deposit Server, version 1.0, \$449.

— Eric Taub



Snow Report Writer



Sure, your number-crunching program lets you do a lot with your data, but does it let you print reports that look exactly the way you want 'em to? If not, check out Snow Report Writer. It's a standalone program that reaches into existing accounting, database, and spreadsheet files; retrieves the information you need; performs sorting and calculations on the data; and presents it in your own custom layout.

Report Writer reads a variety of file formats directly, including 4th Dimension, FileMaker Pro, Excel, Lotus, dBASE, Btrieve, SQL, most versions of COBOL, and most text-based formats. Special versions of Report Writer also

read data directly from MacP&L (formerly Accountant, Inc.) and Great Plains Accounting files. A report can include data from a primary file and from any related file in which the primary file looks up information. You can view reports on-screen, print them, or save them to disk in a variety of file formats compatible with popular spreadsheet and database programs.

Creating custom layouts for your reports is a breeze. The Design window provides vertical and horizontal rulers to help you position the elements in a report. Vertically, the layout is divided into five resizable sections corresponding to the five parts of a report: the *report header* (which prints at the top of page 1 only), the *header* (which prints at the top of each page), the *detail* section (the main body of the report), the *subtotal* section (Report Writer handles as many as nine levels of subtotals), and the *footer* (which prints at the bottom of each page).

Specifying the data you want included in your report isn't always easy, though. The menu item for selecting files and fields leads you to DOS-like disk directories — names separated by colons and backslashes — and field names that are sometimes surrounded by confusing gibberish characters (actually separator or instructional characters native to the type of file being read). We'd like to see the program filter these characters out.

Report Writer's copy-protection scheme can also be annoying. The program works only in a limited-use tutorial mode until you enter a registration code — which isn't included in the package. You can obtain the code either by calling Snow's voice line (during standard business hours only) or by faxing your registration form to Snow and waiting for a reply. Some registration codes are specific to particular Mac models, preventing you from running the same copy of the program on both your desktop Mac and your PowerBook, for example.

If you've been unable to get reports in exactly the format you want, Report Writer may offer the breakthrough you need. But its interface to source data files isn't user-friendly, so make sure you understand the underlying structure of your data before you start.

Snow Software, 2360 Congress Avenue, Clearwater, FL 34623; 813-784-8899. Version 4.01. \$695; Great Plains Accounting and MacP&L versions, \$795.

— Darryl Lewis



Musicshop



Opcode's Musicshop is a well-crafted entry-level program for recording, editing, playing, and printing MIDI data entered via synthesizers and a MIDI interface. If you're a music hobbyist or educator, its features and flexibility should meet your needs well — without breaking your bank account. And the program fully supports the new General MIDI standard for consistency of sound among synthesizers.

Unlike the massive, rocket-science-level manuals included with more-powerful sequencers, Musicshop's manuals are encouraging and fun to read. For example, the tutorial's explanation of just what MIDI is and is *not* is better than any other we've seen.

Musicshop's interface is refreshingly intuitive and attractive. Opcode makes extensive use of color, pop-up menus, interactive cursors, and on-screen hot

spots. Just moving the cursor over the time signature or key signature changes the cursor to the appropriate tool for editing the signature in question, and context-sensitive help is available at a keystroke.

Adjusting the relative volumes of tracks within a sequence is just as well thought out. The Mixer looks exactly like a recording-studio mixing console and works in the same way. To adjust loudness, users need only click and drag faders up or down. Stereo panning, mute, and solo functions, also common on mixing consoles, are present.

Musicshop prints music easily but should not be confused with a professional notation program. It provides rudimentary control over the elements on a page — margin settings for titles and staves, number of staves per page, and number of measures per line — but that's all. You can't add instrument names or measure numbers to the staves, for example. Still, for quick, easy-to-read printing, Musicshop does fine.

Unfortunately, the program has a darker side too. It crashes occasionally for no apparent reason. Also, some of its functions, such as locking in mixer settings, creating tempo changes, and applying permanent instrument names, are not as intuitive as other aspects of Musicshop. And the system requirements can be misleading: The box claims the program runs on a Mac Plus or later, but we recommend at least a Classic II if you want to avoid ultraslow response times.

If you need a sequencing program that lets you sync to SMPTE time code, transpose music modally, or adjust quantizing strength, you will probably want one of the more expensive programs such as Opcode's Vision or Mark of the Unicorn's Performer. If, however, you have no idea what anything in the previous sentence means, you'll feel right at home with Musicshop.

Opcode Systems, Inc., 3950 Fabian Way, Suite 100, Palo Alto, CA 94303; 415-856-3333. Version 1.0. \$149.95.

— Ken Gruberman

Avery MacLabelPro. Simply Brilliant!



The Easiest Way to Create Great-Looking Labels ... and More

Avery MacLabelPro™ gives you everything you need to design and print Avery labels, index dividers, business cards and more in minutes. Just choose the product you want, add your text and design elements, choose your mailing list and print. It's that simple. And the results are simply brilliant.

Features include:

- ◆ Ready-to-use layouts for 120 Avery products
- ◆ Easily merges lists of any size created in popular software programs
- ◆ Drawing tools, graphics import, text rotation and postal bar codes
- ◆ Desk accessory for quick labels

Call 800-462-8379 for a **FREE Demo Disk!**



AVERY

CIRCLE 20 ON READER SERVICE CARD.



Ambassador



Ever wished you could write a letter in English and have it print in Japanese, or vice versa? Either scenario can come true with the Japanese version of Ambassador, a bilingual document program (soon to be available in European-language versions as well) that translates commonly needed business phrases involving movements of people, money, information, and merchandise.

The program includes 190 model letters and forms, 467 canned sentences (such as "Damage occurred in transit . . ."), and translations of 1,250 business words and place names (plus the option to add 250 more words in kanji).

Creating letters is a fairly simple process. You can start with a model letter and add particular words and canned sentences as needed, or you can compose an original letter by stringing canned sentences together. To find the sentence or

letter you need, you select a category (such as Communications) and a subcategory (such as Follow-up) from pull-down and scrolling lists and then choose from a list of final choices (for example, "Please respond in English"). Once the text has appeared in your document, you choose details by using pull-down or pop-up menus, check boxes, and fill-ins.

Fill-ins rely on your entering words contained in Ambassador's noun dictionary, either by guesswork or by using the Find command—but the manual doesn't clue you in about the latter method. Another drawback is the time it takes to download kanji characters to the printer; expect a ten-minute wait—or longer on a heavily trafficked network.

Although the manual truthfully tells you Ambassador can run on a Mac that has 2 megabytes of RAM, it doesn't tell you the requirements are stiffer if you want to print Japanese characters (as you no doubt will). For printing Japanese, Ambassador requires either KanjiTalk or WorldScript (available in Apple's

Macintosh Japanese Language Kit), each of which costs about \$250 and needs at least 5 megabytes of RAM plus 20 megabytes or more of free hard-disk space for installing two fonts.

Businesses that often need to communicate simple logistical information across the English/Japanese language barrier may find using Ambassador a cost-effective strategy. An upgrade announced at press time, offering a selection of personal-letter templates, will add to Ambassador's value. Even with the selection of hundreds of canned choices, however, you'll sometimes find that what you want to say is not there. If your communication is at all complicated, you may be better off reaching for the phone and an expert interpreter on AT&T's Language Line (at standard long-distance rates plus \$3.50 per minute extra).

Language Engineering Corp., 385 Concord Avenue, Belmont, MA 02178; 617-489-4000. Version 1.0. \$295; KanjiTalk, \$250.

—Marilyn Bancel

Equipped with a modem and SITcomm, you can smoothly communicate across town or around the world.

SITcomm doesn't require you to be an expert at communications. Unlike other modem software, SITcomm already knows how to connect to all major online services, so you can get started right away without scripting.

And only SITcomm can automatically expand and compress files, saving you significant time and phone charges. Do more with your modem. Drive with SITcomm.

Call your favorite mail order outlet or visit your local SITcomm dealer today.

SITCOMM
From the makers of StuffIt Deluxe



**GET MORE MILEAGE OUT OF YOUR MODEM WITH
AUTOMATIC TRANSMISSION.**

© 1993 Aladdin Systems, Inc. (408) 761-6290, (408) 761-6200 fax.

CIRCLE 15 ON READER SERVICE CARD.

With Epson's 1-pass scanning, great images come easy.

Epson ActionScanning System



*Epson's 1-pass system captures
every detail and nuance of your image
in one precise pass.*



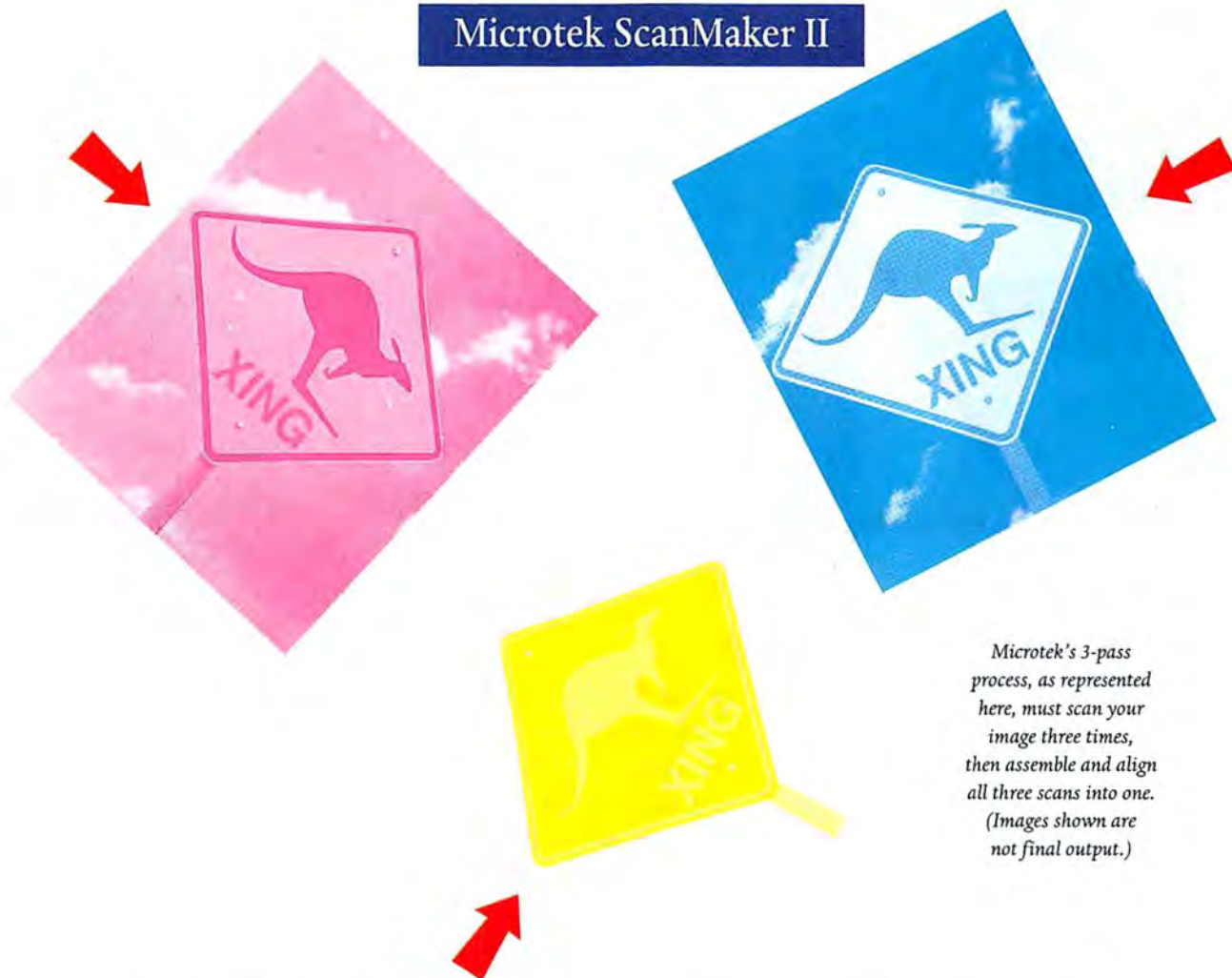
*The Epson
ActionScanning
System. Everything you
need in one box for under \$1000.*

Which scanner would you choose?
All signs point to Epson's Action-
Scanning System for Macintosh.
With 24-bit color, 8-bit
grayscale and crisp 1200 dpi

resolution, it gives you picture perfect results in one simple pass. Precisely
adjusting your image is easy, too, thanks to Epson's unique built-in controls.

With Microtek's 3-pass scanning, image assembly is required.

Microtek ScanMaker II



Microtek's 3-pass process, as represented here, must scan your image three times, then assemble and align all three scans into one. (Images shown are not final output.)

What's more, the ActionScanning System comes with everything you need to be a scanning expert right out of the box, including Adobe Photoshop 2.5 LE, one of the most versatile image editing programs around. For our free booklet on scanning or to learn more about the easy-to-use ActionScanning System or our other scanners for Macintosh and PCs, call the Epson Connection at **1-800-BUY-EPSON** (800-289-3776). This is one scanner you should jump at the chance to own.

Useful Epson options include a transparency unit and automatic document feeder.



EPSON®

And Then There Were

4

BY RUSSELL ITO

Apple streamlines its offerings into four clear categories and adds five new models. Is it finally easier to pick the right Mac? Maybe not . . .

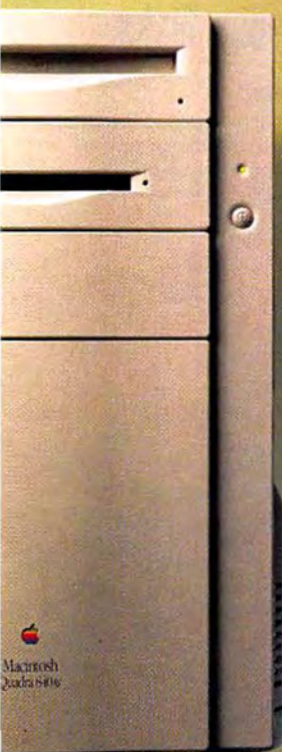
"Less," Mies van der Rohe declared, "is more." For the last few years, however, Apple has steadfastly ignored the Bauhaus master's dictum. Apple's "More is more" philosophy has produced more products than ever, creating more than a little confusion for buyers.

But times change, and Apple has decided that it could use a little more Bauhaus around the house — the new Apple credo is "Fewer is more." Specifically, fewer different products and fewer product lines — but not necessarily fewer *total* products.

Apple's new goal is to simplify its offerings, targeting specific lines at specific markets. The result is four distinct product lines — Performas, LCs, Quadras, and PowerBooks — that are to be sold through different sales "channels" in model configurations to suit the customer needs of that particular channel. To pull this off, Apple now offers identical machines in different lines — only the names have been changed to protect the bottom line.

The Performas will be offered to home users through Wal-Marts, mass-merchant retail stores such as Sears, office-product superstores, Price Clubs, and consumer-electronics stores. Buying a Performa remains the easiest way to get started with the Mac. You get everything you need — monitor, keyboard, modem, software — packed in a single box.

PHOTOGRAPHY: GIAMPIERO BENVENUTI



The New Mac Lineups

The LCs are now targeted at the education market. You may find them at your local school but not at your local Apple dealer. The Quadras continue to be Apple's business models, the line you'll find at your local Apple dealer. The Quadra line now subsumes the earlier Centris models, which are being "speed-bumped" to faster versions. The PowerBooks — including the PowerBook Duo systems — remain Apple's mobile-computing line, targeted at business users on the go. Along with the Centris name, the compact Mac is also facing retirement as Apple begins to phase out the Classic line. The Classic II will soon disappear, and the Color Classic will be available only "in certain geographies and markets where demand continues," according to Apple. Translation: You can expect these descendants of the original 128K Mac soon to be sold mostly outside the U.S.

Because any one channel will carry only one — or at most two — of the surviving lines, Apple has duplicated some machines to ensure that a broad range of capabilities is available in each line. For example, there's a 25-megahertz 68LC040 Mac in the Performa (the Performa 475 and 476), LC (the LC 475), and Quadra (the Quadra 605) lines. Remember, this is the *exact same Mac* — the only differences are in the bundled software, if any; where you buy that particular model; and in some cases, simple cosmetic differences in the plastics.

Performa 460 and 466/467: A Faster LC III

The Performa 460, 466, and 467 are the same machine, an LC III with a faster 68030 processor (33 megahertz versus 25 megahertz). They each ship with

4 megabytes of RAM, expandable to 36 megabytes, and 512K of VRAM (video RAM) for 8-bit color on a 14-inch monitor. The VRAM is expandable to 768K, enough to give you 16-bit color (32,000 colors) on a 14-inch monitor. Like the LC III, they each use the standard LC PDS (processor-direct slot) for expansion.

The only differences among the three machines are the capacities of their internal hard drives, where they'll be sold, and the software that's included with them. The Performa 460 ships with an 80-megabyte drive, whereas the 466 and 467 each ship with a 160-megabyte drive. The 466 and 467 are differentiated only by their bundled software and will be sold at Wal-Marts and Price Clubs, whereas the 460 will be sold at office-product superstores, consumer-electronics dealers, and mass-merchant retailers.

To test the Performa 460, 466, and 467, we ran our standard suite of application tests on a prerelease Performa 466. When running most applications, a Performa 466 was significantly faster than a similarly equipped LC III, reflecting the 460 series' faster processor. The only tests in which the 466 wasn't appreciably faster than the LC III were in the Word scroll and the FileMaker Pro sort.

Performa 550: A Big, Fast One-Piece Mac

The Performa 550, like the 460-series Performas, is a speed-bumped version of an earlier Mac. Most users probably haven't seen the original (the LC 520), which was sold only to education customers. You can't beat the Performa 550 for convenience: a one-piece Mac with a 14-inch color display and a high-quality Trinitron tube. Because everything is in one enclosure, all you have to



Figure 1: Overall Speed

Figure 1: In overall speed, the 33-megahertz 68030 processor in the new Performa 550 and the Performa 460 series — here represented by the Performa 466 — outpaces the 25-megahertz 68030 in the popular LC III. The Quadra 605 (and its identical siblings, the Performa 475 and 476 and the LC 475), along with the Quadra 610 and 650, gain a huge advantage from their 68040 processors.



Figure 2: Everyday Tasks

Figure 2: When we used popular business applications to compare the new Quadra and Performa models with existing midrange Macs, we found that speed is dictated not by the Mac's vintage but rather by the power of its processor.

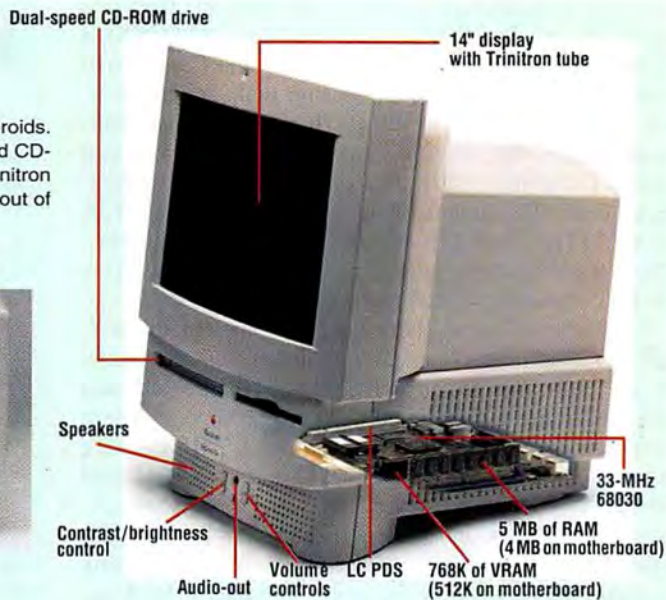
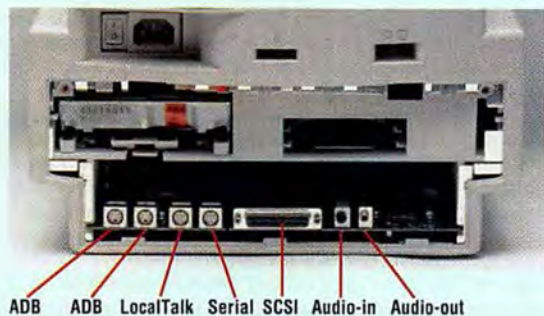
Word

The three 68030 Macs were at a disadvantage when scrolling from the beginning to the end of a 30-page Word document.



Figure 3: Bigger and Better

Figure 3: The Performa 550 is like a Color Classic on steroids. It houses a fast 33-megahertz 68030 CPU, a dual-speed CD-ROM drive, and a 14-inch 16-bit color display with a Trinitron tube — all in a single enclosure. The logic board slides out of the back for easy access.



do is plug in the keyboard, the mouse, and the power cord. The Performa 550 uses the same CPU as and a motherboard similar to that in the 460-series Performas. Its maximum 768K of VRAM is enough for 16-bit color on its display; it has 5 megabytes of RAM standard (36 megabytes maximum) and an internal CD-ROM drive (Apple's standard, the dual-speed 300i).

Comparing our prerelease Performa 550 with an LC III, we found that the smallest improvement was in the

Word-scroll test, and the largest boost was in the Excel-recalculation test, for which the Performa 550 took about 40 percent less time than the LC III.

Quadra 605, LC 475, Performa 475 and 476: A 68040 LC III

The Quadra 605, the LC 475, and the Performa 475 and 476 are the lowest-priced 68040-based Macs so far — and they're all basically the same Mac. The base

Excel

The lack of a math coprocessor kept the Quadra 605 from recalculating a 10,000-cell test spreadsheet as fast as a Quadra 610.

FileMaker Pro

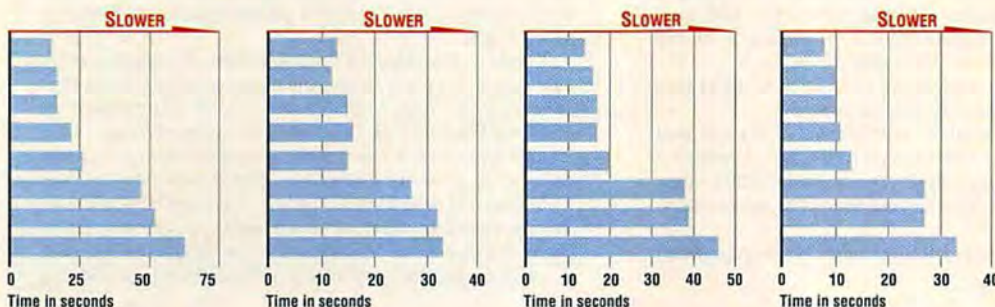
The 68040 Macs excelled even when performing such disk-based tasks as sorting an 18,000-record database.

MacDraw Pro

A zoom operation in MacDraw Pro is a very nearly pure indicator of the relative power of each Mac's processor.

Illustrator

As in all four of the other tests, each Mac's display was set at 16 bits, and, again, the 68040 showed its superiority.



- Quadra 650
- Centris 650
- Quadra 610
- Quadra 605
- Centris 610
- Performa 550
- Performa 466
- LC III
- New model

The New Mac Lineups

machine looks like an LC III and has basically the same motherboard. The CPU is a 25-megahertz 68LC040, a faster version of the chip that powers the Centris 610 and that doesn't include an on-chip math coprocessor. (If you want to add an *FPU* [floating-point unit] math-coprocessor chip, only the Quadra 650 gives you that option.) Like the LC III, the LC 475 ships with 4 megabytes of RAM (expandable to 36 megabytes) and 512K of VRAM (enough for 8-bit color on a 14-inch monitor). The VRAM can be expanded to 1 megabyte (enough for 16-bit color on a 14-inch monitor).

Of all the LC-form-factor machines, the Quadra 605, LC 475, Performa 475 and 476 foursome was the fastest in our tests. We tested a prerelease Quadra 605 and watched it hustle through our test suite, taking anywhere from half to about a third the time of an LC III. Because it is — or more properly, they are — 68040-based (versus the 68030-based LC III), we expected this improvement. Excel and Illustrator were the greatest beneficiaries of the 68040's power — common tasks took less than a third the time they took with the LC III. Even in the Word-scroll test (the test that took the longest), the Quadra 605 took less than half as long as the LC III.

Quadra 610: A Faster Centris 610

The Quadra 610 should look familiar, and so should its name: It used to be called the Centris 610. It's the same low-profile box with room for an internal CD-ROM drive. The processor, however, is now a 25-megahertz 68040 — the same chip that powers the Quadra (née Centris) 660AV — and not the math-crippled 20-megahertz 68LC040 in the Centris 610. [At press time, a 68LC040-based Quadra 610 was also announced. — Ed.]

The Quadra 610 ships with 8 megabytes of RAM (expandable to 64 megabytes) and 512K of VRAM

Free ZMac Database

If you're confused about how your Mac fits into Apple's new lineup, you're not alone. But ZiffNet/Mac — *MacUser's* on-line resource — can help. This month's free file is **Mac Catalog**, which contains every technical detail you'd ever want about every Mac ever made, in FileMaker Pro format. The Mac Catalog is available free of connect-time charges until November 25, 1993, by typing GO MACUTIL. After that, you can find the file DBMACS.SEA in Library 9 of the Download & Support Forum (GO DOWNTech).

Although they aren't free, these other DOWNTech files will help you sort out the new CPU changes:

- **Mac Shuffle.** This PICT chart shows what's old and what's new with the fall 1993 line (SHUFFLESIT, Library 9).
- **Which Mac Should I Buy?** This expert system helps you choose the right machine for your needs (WCHMAC.SEA, Library 9).

Call 800-666-0330 or 317-856-4144 for information about joining ZiffNet/Mac.

— Ben Templin

The Ultimate Test

You can test a Mac's speed in two ways: by seeing how fast the Mac can run typical tasks in typical applications or by using a specially designed application, a *benchmark test*, to find the speed of its individual components — such as its processor, hard drive, or video hardware.

Each approach has its advantages and disadvantages. Application-based testing gives you an excellent idea of how long a specific task will take — but what if you never use that particular piece of software? Benchmark testing thoroughly examines a broad range of subsystem parameters — but how do you relate a benchmark score to the real world of day-to-day use?

We have the answer: Do both. For years, MacUser Labs has performed intensive application-based testing; this month we introduce MacBench 1.0, Ziff-Davis' new benchmark-test suite that measures the performance of the main subsystems of a Mac. Its four key tests produce overall speed ratings for a Mac's processor, disk, video, and floating-point subsystems. Not only will we be using MacBench in future reports but we're also making it available — free — to anyone who wants a copy.

The key to MacBench is that it's based on *application profiling* — the process of determining and logging an application's behavior. MacBench's key tests perform actions based on those that we at the Ziff-Davis Benchmark Operation (ZDBOp), developer of MacBench, observed while profiling the behavior of such best-selling applications as Word, Excel, and FileMaker Pro during typical usage.

MacBench normalizes the results of each of its four key tests relative to those of an out-of-the-box Mac LC III with 4 megabytes of RAM, an 80-megabyte hard drive, an Apple 14-inch monitor, 512K of VRAM, a standard System 7.1 installation, and no floating-point-math coprocessor. MacBench is designed so that the score of this reference LC III (which lives in ZDBOp's North Carolina research center) is 10.0 on each of the four tests.

Higher scores mean higher speed. For example, a Mac with a MacBench Disk Index of 20.0 can deliver about twice the drive speed of the base LC III for typical tasks.

MacBench's Disk Mix test, its key disk-subsystem test, is a sequence of disk input/output operations modeled on those that applications perform. Its result, the MacBench Disk Index, indicates the speed of a Mac's hard-disk subsystem. The Disk Mix test is useful for such tasks as picking a fast disk drive when you're considering an upgrade.

The Video Mix test measures the speed of a Mac's video subsystem. It times a series of different types of QuickDraw actions and then combines those times into a single MacBench Video Index. The Video Mix test is useful for such tasks as comparing the speed gain from using accelerated-video cards.

Similarly, MacBench's Processor test and Floating Point test exercise a Mac's main processor (and RAM) and FPU (floating-point unit), respectively. For a Mac without an FPU, the Floating Point test relies on Apple's floating-point-emulation software. Each test is a good gauge of the basic processing power of a Mac or a CPU accelerator.

MacBench FPU Indexes are not included here because so few current applications take advantage of floating-point-math coprocessors. We expect more FPU-intensive software to appear after the advent of PowerPC Macs in spring 1994.

In addition to generating these four summary scores, MacBench also provides tests that produce lower-level indicators of drive and video speed. The drive tests provide kilobytes-per-second ratings for disk subsystems reading and writing blocks of different sizes. The video tests produce scores of how many video operations of different types a Mac can perform per second.

If you'd like a free copy of MacBench, you can download it from ZiffNet/Mac. MacBench is available in the MacUser Forum on ZiffNet/Mac (GO MACUSER). Just download the file MACBEN.SEA from Library 3 (MacUser Utilities). If you don't have a modem, you can request MacBench by sending a postcard to Ziff-Davis Benchmark Operation; One Copley Parkway,

Suite 510, Morrisville, NC 27560; Attn: Distribution Coordinator. Or fax your request to 919-380-2879. Please include with all requests your name, address, and phone number and allow four to six weeks for delivery. If you'd like faster delivery, enclose your Federal Express account number and Federal Express shipping instructions.

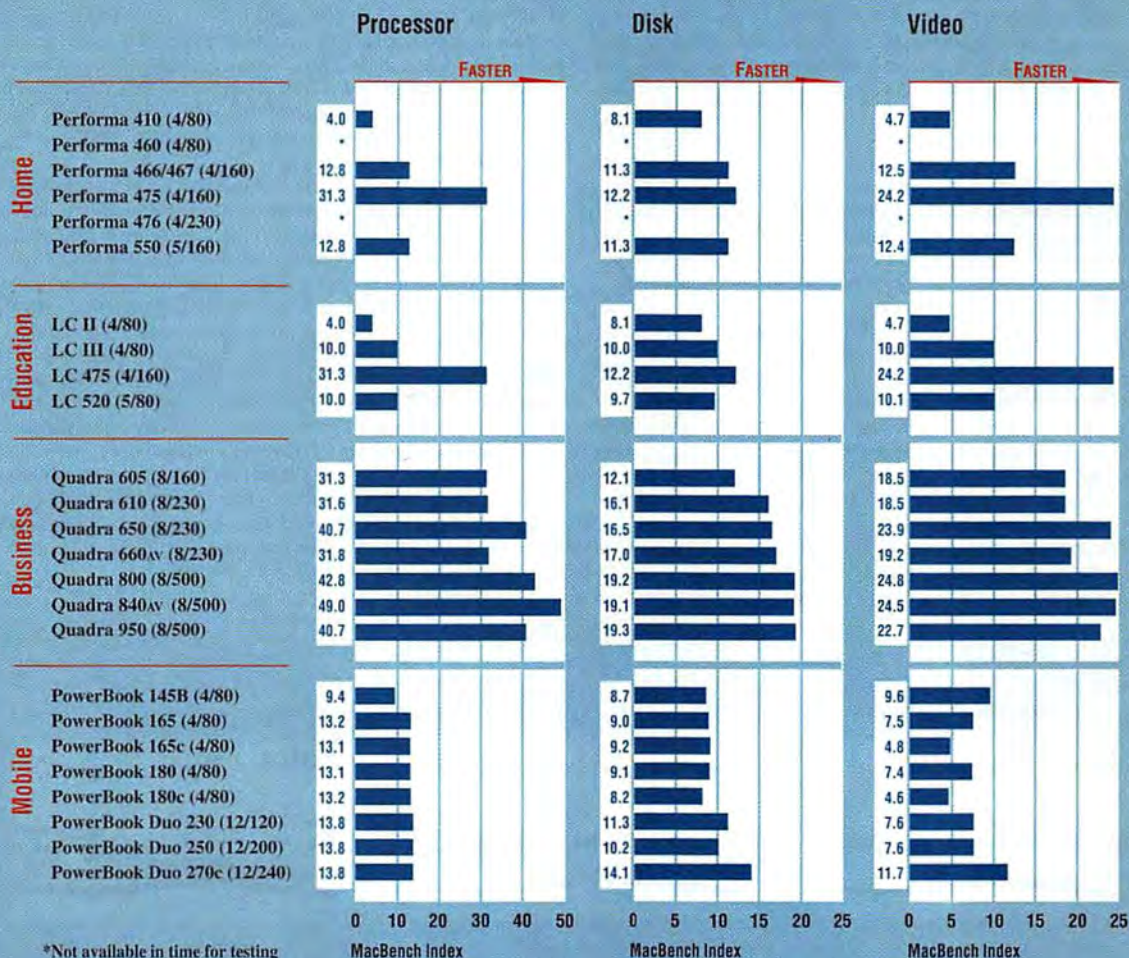
If you use MacBench to test your own Mac, remember that extensions, control-panel settings, and video-hardware configurations may affect performance. Also, not all hard drives are created equal — there may even be variations among seemingly identical drives from the same manufacturer.

— Bill Catchings and Mark L. Van Name, Co-directors, Ziff-Davis Benchmark Operation

MacBench 1.0: A Closer Look at the Mac Family

Each member of the four Mac lineups was tested in a popular RAM/hard drive configuration. The Performas and the LCs were tested in 8-bit (256-color) video, the Quadras in 16-bit (thousands of colors), and the PowerBooks at their highest resolution and bit depth.

The Performa 460 and 476 were not available for testing; their MacBench Processor and Video Indexes should be comparable with those of the Performa 466/467 and 475, respectively, and their MacBench Disk Indexes should be comparable with those of the LC 520 and the Quadra 610, respectively.



The New Mac Lineups

Table 1: Features of the Performa Series

	Performa 410	Performa 460	Performa 466/467	Performa 475	Performa 476	Performa 550
Estimated street price*	\$1,200	\$1,300	\$1,500	\$1,800	\$1,800	\$2,000
CPU, clock speed	68030, 16 MHz	68030, 33 MHz	68030, 33 MHz	68LC040, 25 MHz	68LC040, 25 MHz	68030, 33 MHz
FPU	none	none	none	none	none	none
RAM (min., max.)	4 MB, 10 MB	4 MB, 36 MB	4 MB, 36 MB	4 MB, 36 MB	4 MB, 36 MB	5 MB, 36 MB
VRAM (min., max.)	512K, 512K	512K, 768K	512K, 768K	512K, 1 MB	512K, 1 MB	768K, 768K
Maximum colors on 14" display	256	thousands	thousands	thousands	thousands	thousands
Maximum colors on 21" display	16	256	256	256	256	NA
Network interface	LocalTalk	LocalTalk	LocalTalk	LocalTalk	LocalTalk	LocalTalk

*Price includes CPU, monitor, data/fax modem, keyboard, mouse, and application software.



Apple's Latest LaserWriters: Versatile and Powerful

While attempting to simplify its desktop-Mac offerings, Apple continues to broaden its printer line. Its two latest additions, the LaserWriter Select 360 and the LaserWriter Pro 810, are targeted, respectively, at small- to medium-sized workgroups of five to ten users and large workgroups of ten or more.

The LaserWriter Select 360 is a PostScript Level 2, 600-dpi, 10-ppm printer intended for small- to medium-sized workgroups. It replaces both the LaserWriter NTR and the LaserWriter Pro 600, straddling the Select and Pro lines. It is powered by a 16-megahertz Am29200 RISC processor and comes with 7 megabytes of RAM standard (expandable to 16 megabytes).

In addition to PostScript Level 2, the Select 360 offers Hewlett-Packard's PCL 5, popular among PC users, and automatic port and emulation switching in ROM. LocalTalk, parallel, and serial ports are standard on the Select 360, but Ethernet connectivity isn't an option. A 250-sheet and 50-sheet tray is standard, with 250- and 500-sheet trays available as options.

The Select 360's most significant new option is a PostScript Fax Card. With the fax card installed, you can send and receive PostScript faxes, just as if you were printing normally, with PostScript-quality, plain-paper output for your faxes — and the Select 360 can print faxes at 600 dpi, far superior to the 200-dpi output of stand-alone fax machines. The fax option also provides the ability to batch-send faxes to groups of recipients — whether they have PostScript or non-PostScript fax devices — with just a single Print command.

We tested a prerelease LaserWriter Select 360 for pure engine speed and for overall print quality and compared its results with those of the popular — and similarly priced —

Hewlett-Packard LaserJet 4M. The engine-speed test involved printing a 50-page Word text document. Here, the Select 360's faster engine gave the Select 360 a slight edge, letting it beat the 4M by a little more than 10 percent. To evaluate speed and overall print quality, we printed a 5-page, complex document from PageMaker. Again, the Select 360's faster engine gave the Select 360 about a 10-percent advantage, but the 4M had the edge in print quality: The prerelease Select 360 we tested printed text and graphics that were noticeably darker and heavier than those produced by the 4M. The 4M's 600-dpi resolution enhancement also made a noticeable difference for reproducing text and thin lines.

If the LaserWriter Pro 810 looks familiar, it's because Dataproducts and Varityper are shipping the same model: a PostScript Level 2, 20-ppm unit that offers resolutions of 300, 400, 600, and 800 dpi (the engine is a 400-dpi Fuji Xerox model that has been enhanced to provide higher resolution). The processor is a Weitek 8200 RISC chip, and the printer ships with 8 megabytes of RAM standard (expandable to 32 megabytes).

LocalTalk, serial, and Ethernet ports are standard, and to perform any required emulation switching (the Pro 810 also supports PCL 4+), the Pro 810 uses Dataproducts' Virtual Printer Technology (VPT), which lets various configurations of the same printer appear as different printers on the network. IPX, TCP/IP, EtherTalk, and Digital LAT are supported concurrently. To keep up with paper demands, the Pro 810 ships with three 250-sheet trays that can hold anything from letter- to tabloid-sized paper. Unfortunately, the LaserWriter Pro 810 was not ready for testing in time for this report.

— Russell Ito

With its PostScript fax option installed, the LaserWriter Select 360 provides PostScript-quality faxes at 300 or 600 dpi — far better than a stand-alone fax machine.



Fax machine to fax machine (200-dpi output)



Select 360 PostScript fax to fax machine (200-dpi output)



Select 360 PostScript fax to Select 360 PostScript fax (600-dpi output)

Table 2: Features of the LC Series

	LC II	LC III	LC 475	LC 520
Estimated education price depending on configuration*	\$900	\$1,100 – \$1,300	\$1,300	\$1,300 – \$1,600
CPU, clock speed	68030, 16 MHz	68030, 25 MHz	68LC040, 25 MHz	68030, 25 MHz
FPU	none	none	none	optional 68882
RAM (min., max.)	2 MB, 10 MB	4 MB, 36 MB	4 MB, 36 MB	5 MB, 36 MB
VRAM (min., max.)	256K, 512K	512K, 768K	512K, 1 MB	768K, 768K
Maximum colors on 14" display	256	thousands	thousands	thousands
Maximum colors on 21" display	16	256	256	256
Network interface	LocalTalk	LocalTalk	LocalTalk	LocalTalk

*Price includes CPU, monitor, keyboard, and mouse.

(expandable to 1 megabyte). With 1 megabyte of VRAM, you can obtain 16-bit color on a 14-inch monitor. Ethernet is standard on the motherboard, and the Centris PDS is retained to provide for high-performance add-in cards.

Our prerelease Quadra 610 proved how much difference a full 68040 (the Centris 610's 68LC040 has no FPU functions) and a faster clock speed can make. Compared with a similarly equipped Centris 610, the Quadra 610 was anywhere from 15 to 50 percent faster for common tasks. Excel saw the biggest improvement. Adobe Illustrator, which has always liked the 68040, also benefited.

Quadra 650: A Faster Centris 650

The Quadra 650, like the Quadra 610, is a relabeled and accelerated version of a Centris model. It uses a faster 68040 than its predecessor (33 megahertz versus 25 megahertz) and still offers all the features of the Centris 650: room for an internal CD-ROM drive, three

NuBus slots, a PDS, and Ethernet on the motherboard. It ships with 8 megabytes of RAM standard (expandable to 132 megabytes) and has the same VRAM capacity as the Quadra 610.

Because the change to the Quadra 650 from the Centris 650 was only a matter of using a faster processor, the speed improvements we saw were not as dramatic as with some of the other machines.

Our prerelease Quadra 650's speed proved to be pretty much in line with its faster clock speed, coming in at as much as 25 percent faster than a Centris 650. Illustrator was the biggest winner, at around 25 percent faster, with Word, Excel, and MacDraw Pro all coming in around 15 percent faster.

Is It Simple Yet?

Whether Apple's new strategy will work or not isn't clear. Even after days of working with these new Macs, we found it difficult to remember which were duplicated where in the whole scheme of things. If Apple is successful, you, of course, won't have to go through what we went through, because you'll see only one line (or maybe two) when you go to your favorite Apple dealer. Good luck. ☹️

Russell Ito is a *MacUser* senior editor who, unlike Patty Duke and Apple, finds the concept of identical cousins a bit daunting.

Table 3: Features of the Quadra Series

	Quadra 605	Quadra 610	Quadra 650	Quadra 660av	Quadra 800	Quadra 840av	Quadra 950
Estimated street price depending on configuration*	\$1,000 – \$1,300	\$1,400 – \$2,100	\$2,300 – \$3,400	\$1,900 – \$3,100	\$3,100 – \$4,500	\$3,400 – \$5,300	\$3,800 – \$5,500
CPU, clock speed	68LC040, 25 MHz	68040 [†] , 25 MHz	68040, 33 MHz	68040, 25 MHz	68040, 33 MHz	68040, 40 MHz	68040, 33 MHz
DSP, clock speed	none	none	none	DSP3210, 55 MHz	none	DSP3210, 66 MHz	none
FPU	optional	in 68040 [†]	in 68040	in 68040	in 68040	in 68040	in 68040
RAM (min., max.)	4 MB, 36 MB	8 MB, 64 MB	8 MB, 132 MB	8 MB, 128 MB	8 MB, 136 MB	8 MB, 128 MB	8 MB, 256 MB
VRAM (min., max.)	512K, 1 MB	512K, 1 MB	512K, 1 MB	1 MB, 1 MB	512K, 2 MB	1 MB, 2 MB	1 MB, 2 MB
Maximum colors on 14" display	thousands	thousands	thousands	millions	thousands	millions	millions
Maximum colors on 21" display	256	256	thousands	thousands	thousands	thousands	thousands
Network interface	LocalTalk (Ethernet option)	LocalTalk, Ethernet	LocalTalk, Ethernet	LocalTalk, Ethernet	LocalTalk, Ethernet	LocalTalk, Ethernet	LocalTalk, Ethernet

*Price is for CPU only; monitor, keyboard, and mouse not included.

[†]A 68LC040-based configuration is also available.

The PowerBook Duos' docking concept has charmed a lot of users, but the screens of these lightest of mobile Macs haven't won as many fans. Although the displays on the Duo 210 and 230 are gray scale, they lack the eye-popping crispness you can get only from an active-matrix display, and many Duo users remain slightly envious of their PowerBook 180-toting brethren.

To help settle this sibling rivalry, Apple has introduced a pair of new Duos: the gray-scale Duo 250 (which replaces the Duo 210) and the color Duo 270c, each of which packs an active-matrix display. Apple will also provide owners of earlier Duos an opportunity to move up to the new, superior displays.

The PowerBook Duo 250 and 270c:

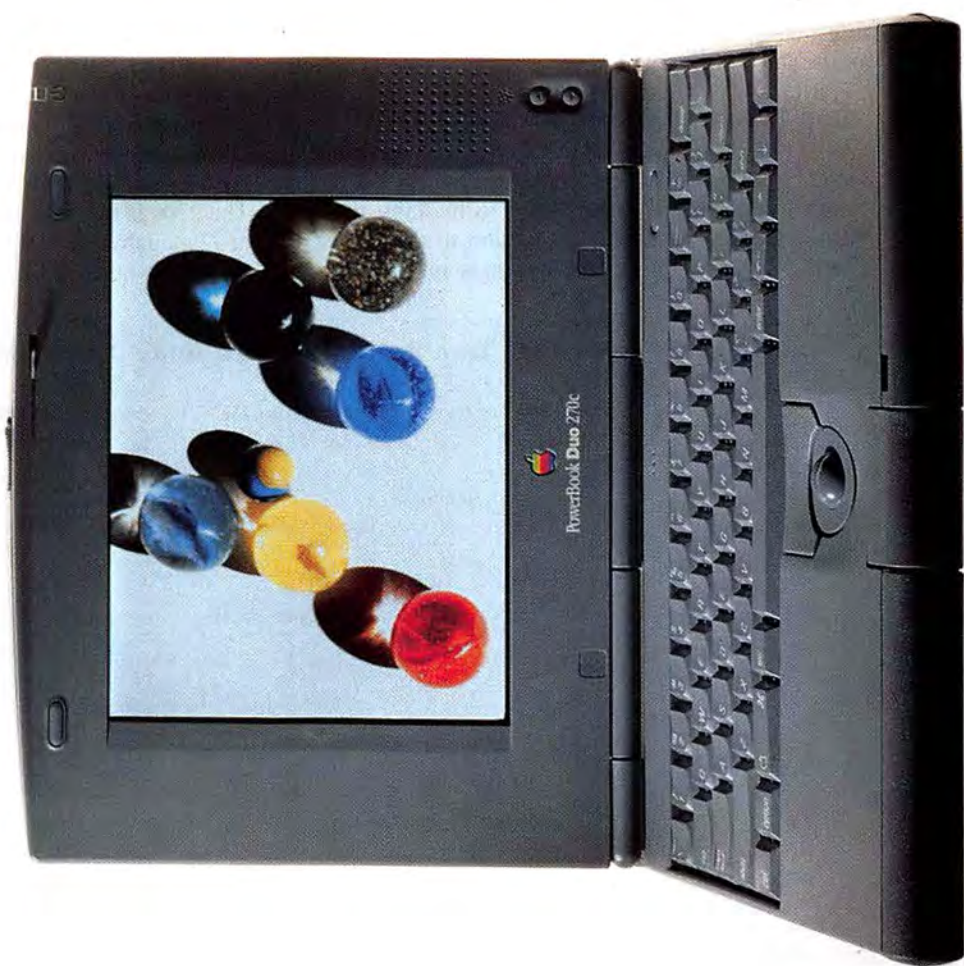
Duos **Done** Right

*The newest PowerBook Duos sport
bright, active-matrix displays and more than
32,000 colors — for the first time ever
on a laptop computer.*

BY RUSSELL ITO

In addition to active-matrix displays, the new Duos have several other elements in common. Each uses a 33-megahertz 68030 processor (with the dropping of the 25-megahertz 210, the entire Duo line uses the same type of CPU).

The new Duos use an improved battery technology that Apple claims will give the Duo 250 anywhere from two and a half to six hours of battery life and the Duo 270c anywhere from two to four hours. (We weren't able to test Apple's battery-life claims before press time, but stay tuned.) The new Type II NiMH (nickel metal hydride) batteries also work with the existing Duo 210 and 230, with the addition of a battery-management-software upgrade, so owners of the older Duos can cash in on the longer battery life as well.



PowerBook Duo 250 and 270c

Figure 1: Overall Speed

Figure 1: The new Duos use the same type of 33-megahertz 68030 microprocessor the original Duo 230 uses. Not surprisingly, the three Duos' overall speed is strikingly similar — although the Duo 230's 120-megabyte hard drive is slightly faster than the 200-megabyte drive in the Duo 250 and the 240-megabyte drive in the Duo 270c. When the Duo 270c is set to 16-bit color, its scrolling speed bogs down, lowering its overall score.

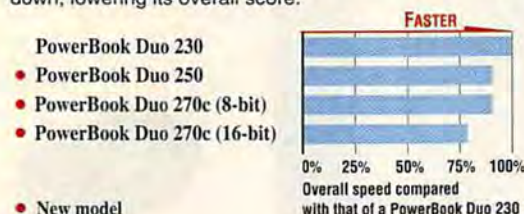
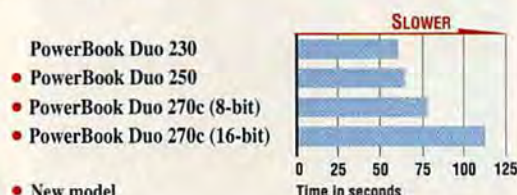


Figure 2: Everyday Tasks

Figure 2: We used five popular applications to compare a Duo 250 (12/200) and a Duo 270c (12/240) with a Duo 230 (4/120), and found that — despite their identical 33-megahertz 68030 microprocessors — display, FPU, and hard-drive differences do have an effect.

Word

Our 30-page scroll test proves you should set the Duo 270c's color display to 8 bits or less when using Microsoft Word.



The new Duos also offer owners of older Duos another advantage: upgrades. For the first time since the introduction of the PowerBook line, Apple is offering its customers a way to upgrade to the newest PowerBooks. The upgrade kits replace the passive-matrix screens in the Duo 210 and 230 with active-matrix screens and add the new battery-management technology. Duo 210 users also benefit from the addition of a faster 68030 processor. The upgrades aren't cheap (\$1,299 for the Duo 250 upgrade, \$1,999 for the Duo 270c upgrade), but at least they're an option.

Duo 250: Active-Matrix Duo 230

With the elimination of the Duo 210, the Duo 250 becomes the middle-of-the-line Duo. Except for its active-matrix display and new battery technology, the Duo 250 is identical in form and function to the Duo 230. Like the 230, it weighs in at 4.2 pounds and has a 9-inch

diagonal screen capable of displaying 16 shades of gray. The maximum RAM capacity remains 24 megabytes.

Given that the Duo 250 uses the same processor as the earlier Duo 230, we expected our prerelease model to perform at roughly the same speed, and we weren't disappointed. Our Duo 250 completed our test suite in a virtual dead heat with the Duo 230.

Duo 270c: Active-Matrix, 16-Bit Color

The Duo 270c is the new top of the line: It's the first color Duo model — and the first sub-notebook-sized computer from any manufacturer to offer active-matrix, 16-bit color on its internal display. Its basic characteristics are the same as the Duo 250's, with a few enhancements. The 270c is the only Duo model to include an FPU, and at 32 megabytes, its RAM capacity is a third higher than that of the other (24-megabyte) models. Its color screen

makes the Duo 270c slightly heavier than the other models (4.8 pounds versus 4.2), and it's a tenth of an inch thicker. That tiny change in thickness, however, means the Duo 270c won't fit into the current Duo Dock. Fortunately, all that's required to fix that problem is a new lid for the Duo Dock, which Apple will sell for around \$70. Because all the Duos will work in a Duo

Table 1: The PowerBook Duo Series — More Alike Than Different

	PowerBook Duo 230	PowerBook Duo 250	PowerBook Duo 270c
Estimated list price (RAM/hard drive)	\$1,450 (4/80) \$2,000 (4/120) \$2,500 (4/160 with modem)	\$2,500 (4/200) \$3,000 (12/200 with modem)	\$3,000 (4/240) \$3,500 (12/240 with modem)
CPU, clock speed	68030, 33 MHz	68030, 33 MHz	68030, 33 MHz
FPU	none	none	68882
RAM (min., max.)	4 MB, 24 MB	4 MB, 24 MB	4 MB, 32 MB
Display type	passive-matrix gray scale	active-matrix gray scale	active-matrix color
Maximum gray levels/colors on built-in display	16	16	256 at 640 x 480 pixels, 32,768 at 640 x 400 pixels
Video-out	with optional dock	with optional dock	with optional dock
Maximum colors on external 14" display	256*	256*	256*

*Third-party docks that provide 32,768 colors on a 14" display are available.

Excel

The FPU of the Duo 270c gave it a slight advantage when recalculating a complex 10,000-cell spreadsheet.

FileMaker Pro

The 120-megabyte hard drive of the Duo 230 helped it beat the Duo 250 and 270c when sorting an 18,000-record database.

MacDraw Pro

The Duos' identical 33-megahertz 68030 processors were nearly identically fast at calculating a zoom operation.

Illustrator

The demands of color processing slowed the Duo 270c only slightly when we previewed a complex image in 8- and 16-bit color.




Dock if it has the new lid, all of Apple's future Docks will ship with one.

Although the Duo 270c uses the same type of 8.4-inch-diagonal, 93-dpi active-matrix screen as the one in the PowerBook 180c, Apple has enhanced the display through software. The Duo 270c is the first multiple-resolution PowerBook of any kind. With the Duo 270c, you have the choice of using either 8-bit color (256 colors) at 640 x 480 pixels (standard 14-inch-display dimensions) or 16-bit color (32,768 colors) at 640 x 400 pixels (standard PowerBook screen dimensions).

We tested our prerelease Duo 270c at pixel depths of 8 and 16 bits: In the CPU tests, the bit depth and pixel dimensions had no significant effect on the speed of real-world tasks. The Duo 270c completed the Microsoft Excel, Claris MacDraw Pro, and Adobe Illustrator tests

in basically the same time as our Duo 230, which was running in 4-bit gray scale. Where the 270c's color abilities hurt it was in the same test that has hurt all the color PowerBooks: the Microsoft Word scroll. At 8-bit color, the 270c took somewhat longer than the 230 to scroll our Word document; at 16 bits, it took nearly twice as long.

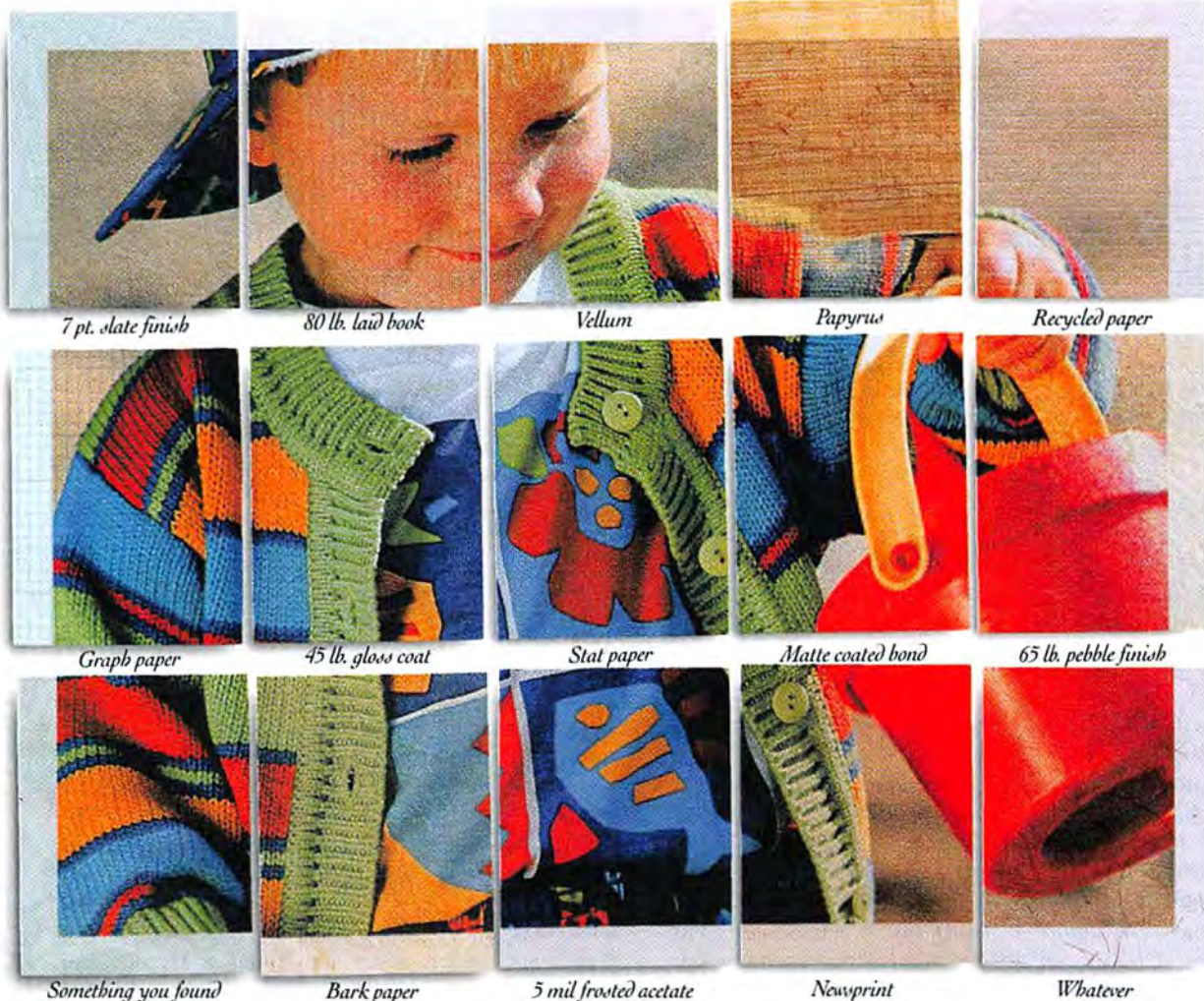
Get Active

With their bright, sharp active-matrix screens and promised longer battery life, the Duo 250 and 270c may finally bring the PowerBook Duo the widespread acceptance Apple has been pursuing. For users who want the sharpest, lightest PowerBook they can get, the new Duos are the way to go. 

Russell Ito is a *MacUser* senior editor who still uses a PowerBook 140.

Table 2: The PowerBook Series — a Broad Range of Choices

	PowerBook 145B	PowerBook 165	PowerBook 165c	PowerBook 180	PowerBook 180c
List price (RAM/hard drive)	\$1,429 (4/40) \$1,679 (4/80)	\$1,969 (4/80) \$2,329 (4/160) \$2,579 (4/160 with modem)	\$2,339 (4/80) \$2,699 (4/120) \$2,949 (4/120 with modem)	\$3,389 (4/80) \$3,749 (4/120) \$3,999 (4/120 with modem)	\$3,719 (4/80) \$4,079 (4/160) \$4,329 (4/160 with modem)
CPU, clock speed	68030, 25 MHz	68030, 25 MHz	68030, 33 MHz	68030, 33 MHz	68030, 33 MHz
FPU	none	none	68882	68882	68882
RAM (min., max.)	4 MB, 8 MB	4 MB, 8 MB	4 MB, 14 MB	4 MB, 14 MB	4 MB, 14 MB
Display type	passive-matrix monochrome	passive-matrix gray scale	passive-matrix color	active-matrix gray scale	active-matrix color
Maximum gray levels/colors on built-in display	1	16	256	16	256
Video-out	no	yes	yes	yes	yes
Maximum colors on external 14" display	NA	256	256	256	256



Like most color printers, this one works best if you use the right paper.



Works great on plain old white, too.

Color printing on plain paper is, no doubt about it, a remarkable achievement. But we know there are times when you wish you weren't limited to an 8½" x 11" white piece of paper. You know, those times when you need a Phaser™ III color printer.

From vellum to card stock, newsprint to acetate, the Phaser III prints on almost any stock you'll ever need. In any size you wish, from 4" x 6" to 12" x 18" full bleeds. That way, you can do your comps on the paper you're ultimately going to use. After all, what you print on is just as important as what you print.

To make sure you always look good on any paper, the Phaser III features Adobe PostScript™ Level 2 (the latest version), 300 dpi, PANTONE®* certification, and a 24MHz

RISC processor to keep your work humming. It also connects nicely to PCs, Macs or workstations. Or all three at once. Above all, it gives you 16.7 million of the brightest, most saturated colors ever printed on the desktop. No wonder it's won more industry awards for excellence than any other printer.

With the Phaser III, you'll always have the right paper. You'll have the right printer, too.

Call 800/835-6100, Dept. 30-A for a free output sample. If

you can't wait and want more information, we'll gladly fax it to you. Just call 503/682-7450 and ask for document 1230.



Tektronix

Tektronix, TekColor and Phaser are trademarks or registered trademarks of Tektronix, Inc. PostScript is a trademark of Adobe Systems, Inc. *Pantone, Inc.'s check-standard trademark for color reproduction and color reproduction materials. All other marks are trademarks or registered trademarks of their respective companies.

CIRCLE 18 ON READER SERVICE CARD.

System Software *for the '90s*

BY HENRY BORTMAN, JOHN RIZZO, AND STEPHAN SOMOGYI

The hottest new Mac of the year is almost ready. It offers more-powerful features but

is simpler to use than any other. You won't have to plop down five grand to get it, and it won't be obsolete in six months. No, it's not the Quadra 840AV, the PowerPC Mac, or the Newton. It's the Mac you have now — running a suite of inexpensive new system extensions that will revitalize it.

Your rejuvenated Mac will be running PowerTalk and AppleScript — which were just released as part of System 7 Pro, Apple's new, advanced system-software package (\$149) — and QuickDraw GX. Apple will continue to sell the current version of system software, System 7.1, at a reduced price of \$79. With the new software, you will be able to print at the drop of an icon, send e-mail without leaving your paint program, and pass data among applications without lifting a finger from your mouse.

QuickDraw GX, PowerTalk, and AppleScript are system *extensions*; they extend the functionality of the operating system. This software trio won't make your Mac faster, but it will speed up the way you work with your Mac. These extensions will change how your Mac looks and acts and will be a more radical and powerful upgrade than buying a new box.

On the next few pages, we preview what some of the new features will look like. We look first at QuickDraw GX, which by itself adds more features to the Mac than System 7 did. QuickDraw GX has something just about everyone can use. Powerful new graphics routines let any application produce sophisticated color and transformational effects. Smart fonts automatically adjust the

typographical parameters of a character, depending on where it falls in a word or a line. Color-management software goes a long way toward making colors produced by scanners, printers, and monitors look the same.

PowerTalk is the user implementation of AOCE (Apple Open Collaboration Environment). Apple also sells the PowerShare Collaboration Servers package (\$999), which provides directory, messaging, and security services for workgroups. AOCE takes the current maze of communications — be it LAN or WAN, modem or fax (you name it) — and organizes it neatly on the desktop. E-mail becomes as integral to the Mac as cut-and-paste, and network security becomes fortified yet transparent to users.

AppleScript ties it all together, letting you automate complex or routine tasks. For example, using AppleScript in conjunction with PowerTalk, PowerShare, and off-the-shelf third-party software, you can create customized work-flow systems that pass data among applications on one or more Macs.

These new system extensions offer more than new features, however. Each embodies an enabling technology that software companies can build on for years to come. Although QuickDraw GX, PowerTalk, and AppleScript add great improvements to the Finder, you'll need to use applications that take advantage of them to get the greatest benefits.

The new technologies are built on top of System 7; if you're still using System 6, it's time to switch. Take a look at the Mac to come, on the following pages.

***MacUser's trio of
technical editors
gives you a preview
of new system
software that
will revitalize your
Macintosh.***

QUICKDRAW GX

Apple's new imaging architecture, QuickDraw GX, will bring a wealth of new graphic and typographic capabilities to those Mac applications that take advantage of it. Among the highlights of GX, expected to be released to developers by year's end and to users in early 1994, will be rotation, skewing, and transparency of any graphic object, including text; new font capabilities, such as automatic ligatures and swash characters; and an extensive color-management architecture for

matching input from scanners to output from desktop printers (see "Getting Color in Sync," March '93, page 165). Many applications offer some of these features already, but GX will make them commonplace. Major new enhancements will also be available in the area of printing, among them a streamlined printing in-

terface: Users will be able to print files by dragging and dropping them onto desktop printer icons, which the GX Chooser will create. — Henry Bortman

QuickDraw GX REQUIREMENTS

System: 7.1 or later.

RAM: 1 megabyte in addition to current system needs.

Disk space: 1.5 megabytes; 2.5 megabytes if you install GX fonts.

Minimum processor: 68020.

QuickDraw GX has these components:

- QuickDraw GX extension.
- Adobe Type Manager GX.
- ColorSync (a color-management extension).
- PrinterShare GX (which replaces PrintMonitor).
- GX-savvy fonts such as Hoefler and Tekton GX.

It has new versions of the following:

- The Chooser.
- The Finder.
- The Network extension.
- Drivers for Apple printers.

The following utilities are also included:

- Compatibility Checker, for detecting old printer drivers and providing numbers to call for new ones.
- PaperType Editor, for defining custom page sizes.
- PostScript Type 1 Font Repackager, for converting Type 1 fonts to GX-readable format.
- LaserWriter Utility, which can handle the repackaged Type 1 fonts.
- TeachText GX, which doubles as a viewer for queued print documents.

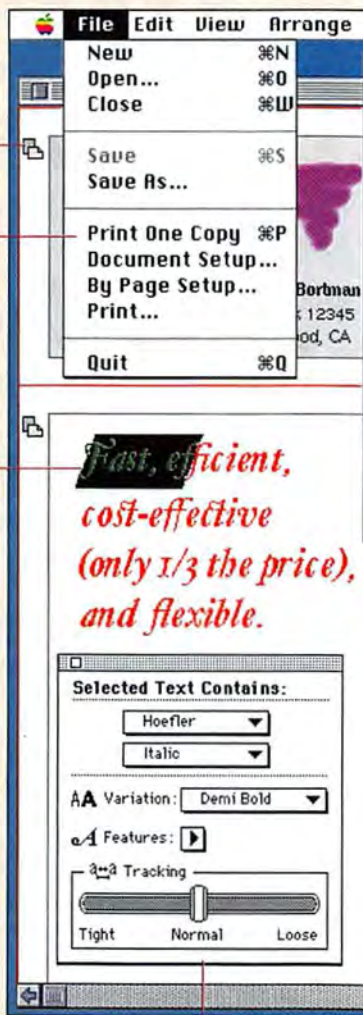
Different Page Sizes You can set up different page dimensions for each page in a GX document. In the sample document shown here, for example, the first page is business-card-sized, the second page letter-sized. Clicking on the icons at the top left of each page brings up the By Page Setup dialog box (not shown), which is also accessible from the File menu.

Print One

When QuickDraw GX is running, pressing Command-P invokes the Print One Copy command, which prints a single copy of your document, using whatever settings are already established in the Print dialog box.

Smart Fonts

GX fonts, TrueType as well as Type 1 (PostScript), support extended character sets, such as the swash capital, ligatures, and lowercase (old-style) numbers shown in this example, along with automatically formatted fractions. GX's Line Layout Manager automatically substitutes the f/i glyph (or symbol) when it encounters the f-i combination in the word *efficient*. Note that it's possible to select the individual characters in the glyph. Before GX, each ligature was treated as a single combination character that required special key combinations or special fonts called Expert Sets and fractions had to be created manually.



New Type Controls

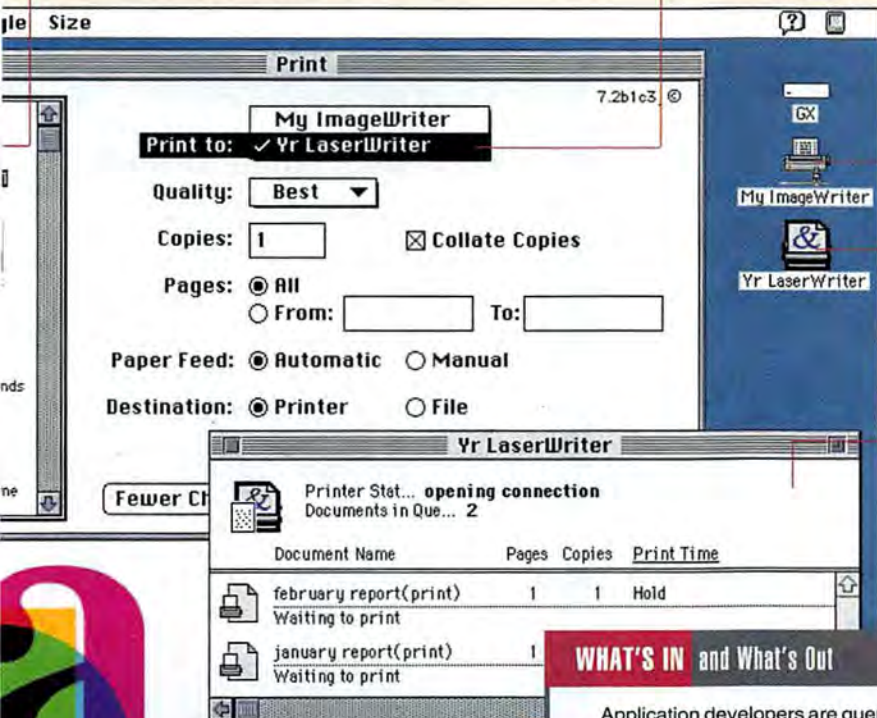
A type-control palette is a standard part of the GX interface. It lets you set tracking, choose among different variations such as the width and weight of multiple-style fonts, and turn on and off features such as initial-swash caps and automatic fractions. Application developers may choose to implement the GX standard or continue to use their own type controls. (The palette shown here is an early prototype; the final version was not complete at press time.)

Customized Printing A new printer-extensions list, accessible from the Print dialog box, lets you customize your print jobs—for instance, you can have the word *Confidential* screened in the background of any document. GX will ship with several standard printer extensions; application and utility vendors will also provide printer extensions.

Select Any Printer The GX Print dialog box lets you select, at print time, any printer for which you have a desktop printer icon, even if the printer is on a network.

New Chooser Selecting a printer in the GX Chooser creates a desktop icon for that printer. You can select the default printer by clicking on it on the desktop (here the printer Yr LaserWriter, surrounded by a heavy line, is selected as the default), and you can print a file by dragging its Finder icon to a desktop-printer icon. Also, when GX is active, any printer, even one attached directly to a Mac's serial port (such as My ImageWriter, shown here), can be shared on a network.

Print Spooling Each desktop printer under GX maintains its own print queue. Spooled print jobs can be dragged from one printer's queue to another (to redirect a print job) or from a print queue to the Finder's Trash (to delete the print job). Double-clicking on a print-job icon in a print queue displays a preview of the printed document in a TeachText GX window.



Graphic Effects GX offers several graphics effects and transformations previously available only in high-end programs. Applications that take advantage of GX can make any graphic object, including text characters, transparent. GX also enables full rotation of any graphic object, including text, and supports limited 3-D perspective.

WHAT'S IN and What's Out

Application developers are queuing up to take advantage of QuickDraw GX. Expect to see many vendors rushing to support the new Print dialog box, which will be relatively easy to add to existing applications. And look for new GX fonts from the likes of Adobe, Bitstream, The Font Bureau, and others.

For more-extensive use of GX capabilities, keep your eye on the following vendors. Deneba will have a GX-based version of Canvas in short order. Pixel Resources, maker of PixelPaint, will offer a new application (unnamed at press time) that will use GX technology to simplify working with graphics and color. It will integrate bit-mapped and object graphics so thoroughly that users won't have to think about which is which, as they often do now. Corel, maker of the most popular drawing program for Windows, will release CorelDRAW for the Macintosh. CorelDRAW/Mac will include the same drawing, charting, and animation features as the 4.0 version of its Windows cousin but with full GX capabilities. Cross-platform compatibility will be another plus.

But with GX, several parts of the system as you know it will change. Your old printer drivers—including Apple's new PostScript Level 2 LaserWriter 8.0 driver—won't work. Thankfully, a new driver will ship with GX,

as will a new version of ATM, because your old versions of that won't work either. And any Type 1 fonts that you want to use with GX will have to be run through the GX font-repackaging utility to convert them to a GX-readable form.

Applications that utilize only old QuickDraw routines will be fully compatible with GX, but developers will have to revise their programs to take advantage of new features such as more-flexible printing options, setup by page, and extended-character-set GX fonts. Other features, such as rotated text and graphics, are already available in high-end illustration and page-layout applications, but they will migrate to other applications as well.

Will GX kill PostScript? There are already rumors that Apple plans to release GX-based printers in 1994. Although PostScript is probably secure as the high-end graphics language of choice, GX may give it a run for its money at the low end, just as TrueType has done with PostScript Type 1. Ironically, what will probably dictate the extent to which GX becomes a PostScript replacement will be the speed with which Windows developers adopt GX, which Apple will make available cross-platform.

— Henry Bortman

System Extensions

POWERTALK

AOCE (Apple Open Collaboration Environment) is a suite of software technologies that standardizes all the communications you do, whether over a network or telephone line or via floppy disk. Apple's first retail implementations of AOCE technology are PowerTalk client software and the PowerShare Collaboration Servers package. The PowerTalk software on your Macintosh connects AOCE-savvy applications to mail, directory, and security services, either on a direct Mac-to-Mac basis or via PowerShare servers. This new server software — PowerShare Catalog and Authentication Server and PowerShare Mail and Messaging Server — provides user authentication, store-and-forward messaging, data encryption, and directory services to users' Macs as well as to remote log-on services.

Apple's new System 7 Pro includes a slew of extensions; the Personal Directory; and AppleMail, an application that's best described as a mail-enabled TeachText. System 7 Pro presents you with a new Finder (7.1.1), which has a compound mailbox containing all incoming messages and has a Catalogs icon that lets you access shared lists of people and resources on your various network and communication services. — *John Rizzo*

PowerTalk REQUIREMENTS

System: System 7 Pro.

RAM: 5 megabytes minimum.

Disk space: 1.5 megabytes extra for incoming messages.

Minimum processor: 68000.

Compound Mailbox

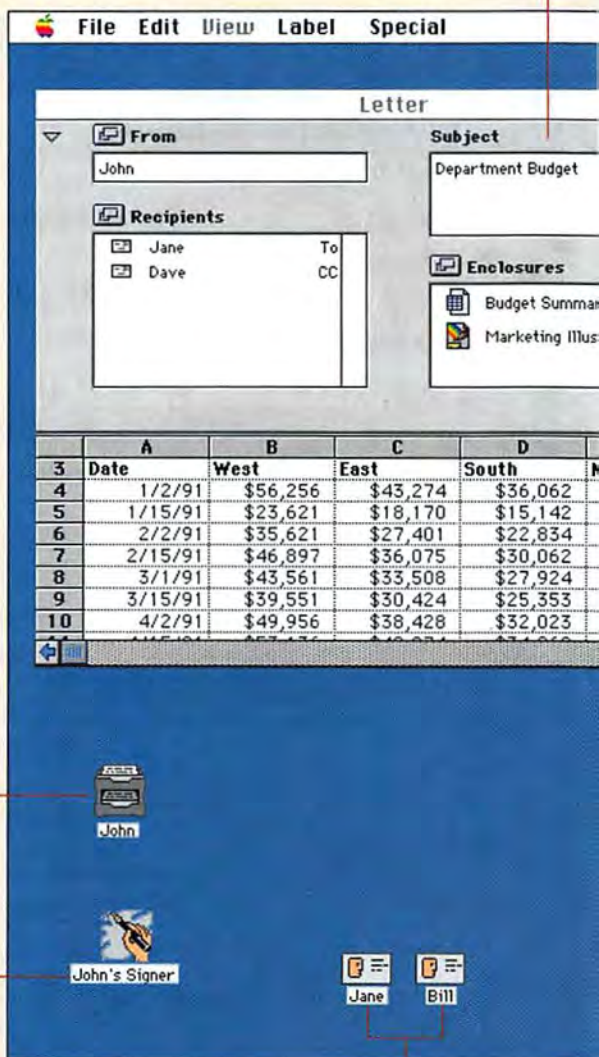
The PowerTalk compound-mailbox icon, which appears on your desktop, provides access to your personal In Tray, which contains all the messages you receive. These can include e-mail messages from LAN services such as QuickMail, dial-in services such as CompuServe or the Internet; fax messages; document files; and even voice-mail messages.

Digital Signature

When sending a message, you can choose to activate a digital signature, a security measure that guarantees to the recipient that the message has not been tampered with and is really from you. Dropping a file onto this icon digitally marks the file as "signed" by you. Signature fields can also be embedded in the mailers attached to documents created by some applications.

Application Mailer

AOCE-savvy applications (such as this mock-up of a spreadsheet program) can embed collapsible mailers at the top of document windows, so you can send a document as a mail message. You can add enclosures — an illustration from the marketing team, for example — by dragging files from the Finder to the Enclosures field.



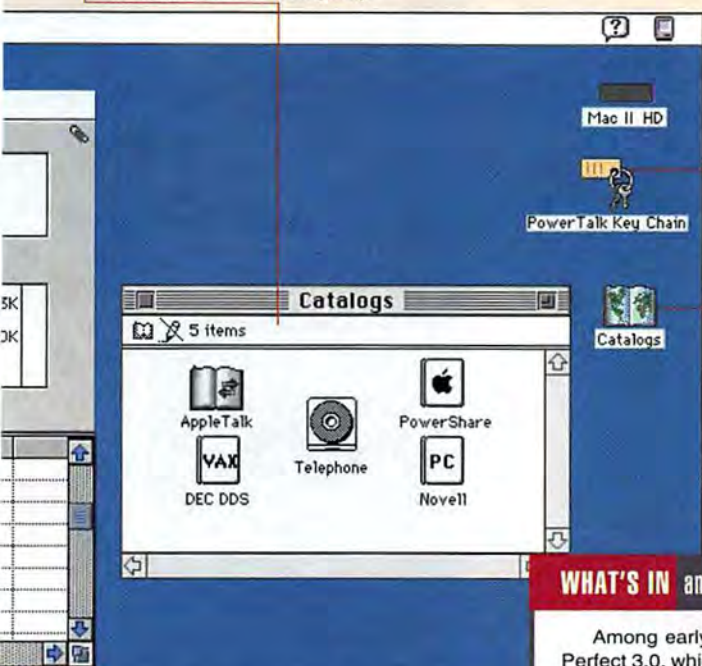
Desktop Databases

Dragging an item from a catalog to the desktop creates a file called a business card that can contain a user's network and e-mail addresses, telephone and fax numbers, and even a picture of him or her. Included templates offer various views of information, but you can create your own layouts too. The AOCE architecture also allows for the design of business-card templates by third-party developers.

Collaborative Catalogs When you double-click on the Catalogs icon, you find catalogs representing your network environment. For example, the AppleTalk catalog mimics some features of the Chooser, such as displaying zones and AppleShare-compatible file servers. It also lists PowerTalk users' machines. The Telephone catalog, which holds names and numbers of your contacts, can be used with a program that dials voice numbers for you. Other catalogs might include directories of e-mail users or an X.500 directory for big LANs or WANs. The Novell catalog might contain users and services on a Novell NetWare network. The DEC DDS catalog might do the same for DECnet. You can also create personal catalogs on the desktop, listing people and services with whom you communicate regularly.

Open Multiple Servers PowerTalk lets you log on to multiple servers from within a single log-on dialog box and password, although each server has its own password. These servers can be almost anything: a file server, a QuickMail server, even a CompuServe account. PowerTalk Key Chain, one of three new icons PowerTalk adds to the desktop, contains the list of servers you automatically connect to from the Sign-On dialog box. When you log on to the PowerShare server, the authentication service verifies your identity and privileges by using a security technique called public-key encryption.

Catalogs Browser A catalogs browser, which appears on your desktop as the Catalogs icon, lets you view catalogs. They contain shared lists of user names and electronic addresses of people and resources with whom you can communicate, whether peer-to-peer or via servers. You can address mail messages by dragging users' names from a catalog into any mailer — the e-mail header that appears on the top of a document.



WHAT'S IN and What's Out

Among early AOCE adopters is WordPerfect 3.0, which, when it ships at the end of the year, will have an AOCE mailer enabling users with PowerTalk to send, open, forward, and reply to e-mail messages via AOCE from within WordPerfect. Shane Informed Manager 1.4, available now, is also AOCE-mail-enabled and lets users create forms that have a digital-signature field — managers using the software can authorize forms without having to print them on paper first. Cypress Research has released an AOCE-savvy version of Phone Pro, which lets you create a Mac-based voice-mail system that delivers messages into the PowerTalk compound mailbox on the desktop. Just double-click on the file to listen to your voice-mail.

CE Software is planning QuickMail for AOCE, a QuickMail front end for AOCE mail. Connecting to classic QuickMail users requires StarNine Technologies' AOCE gateway, Mail*Link for PowerShare/QM. StarNine's Mail*Link SMTP for PowerShare links AOCE-mail users with UNIX mail systems and the Internet. Personal versions of these server-based gateways will also be available, allowing managers to convert individual users to PowerTalk one at a time.

Mail*Link Directory Services for PowerShare, another StarNine product, will give users direct access to the user lists on servers running QuickMail, Microsoft Mail, UNIX mail, and MHS (PC) e-mail. All are expected to ship by the end of the year.

AOCE changes more than the way you send messages, however. With PowerTalk installed, the AppleTalk catalog in the Catalogs window offers much of the functionality of the Chooser, providing easier methods of logging on to file servers (QuickDraw GX will simplify all printer communications in a similar manner). The only unique function the Chooser will still perform will be to turn AppleTalk on and off — a function that will probably be duplicated elsewhere in system software in the future.

E-mail programs will not become obsolete, but they will be able to become AOCE-savvy in one of two ways: E-mail packages can serve as a front end to AOCE, supplying an interface while using AOCE's connection mechanisms; e-mail packages can also act as the back end, providing a transport mechanism that replaces the AOCE messaging mechanism but still plugging in to all the AOCE front ends.

— John Rizzo

In Tray for John		
Subject	Sender	Date Sent
AX 3/3 9:56 AM	Fax Gateway	3/03/93, 4:40 P
Meeting	Susan	2/27/93, 6:28 P
Phone Message	Barbara	2/23/93, 1:27 P
Purchase Order	Dave	2/27/93, 6:58 P
New ads movie	Bill	2/23/93, 1:25 P
SSW Forum Developers	Michael	2/27/93, 4:43 P

APPLESCRIPT

AppleScript is Apple's answer to batch files on the Mac, automating multistep tasks, and much more. AppleScript sits on top of Apple events, Apple's interapplication-communication system software. With AppleScript you can tell multiple AppleScriptable applications to perform actions and to share data. It's unlikely that average users will want to write their own scripts, but anyone who has the AppleScript software installed can take advantage of other scripters' work. Using AppleScript will be an excellent way to create custom systems that integrate multiple separate applications.

The underlying functions of AppleScript are hidden from users, which is as it should be. However, AppleScript is the foundation for several new technologies coming from Apple. PlainTalk, Apple's new speech-recognition system, is a perfect example. PlainTalk recognizes commands and controls applications the same way AppleScript does; any application that can be scripted with AppleScript can be controlled with PlainTalk.

In order to run AppleScript, you need the AppleScript extension. AppleScript is available to developers from Apple for inclusion into shipping products — most users will receive a run-time version of AppleScript with a specific software package. The AppleScript extension and Script Editor will also be included in System 7 Pro. — *Stephan Somogyi*

Running AppleScript Scripts

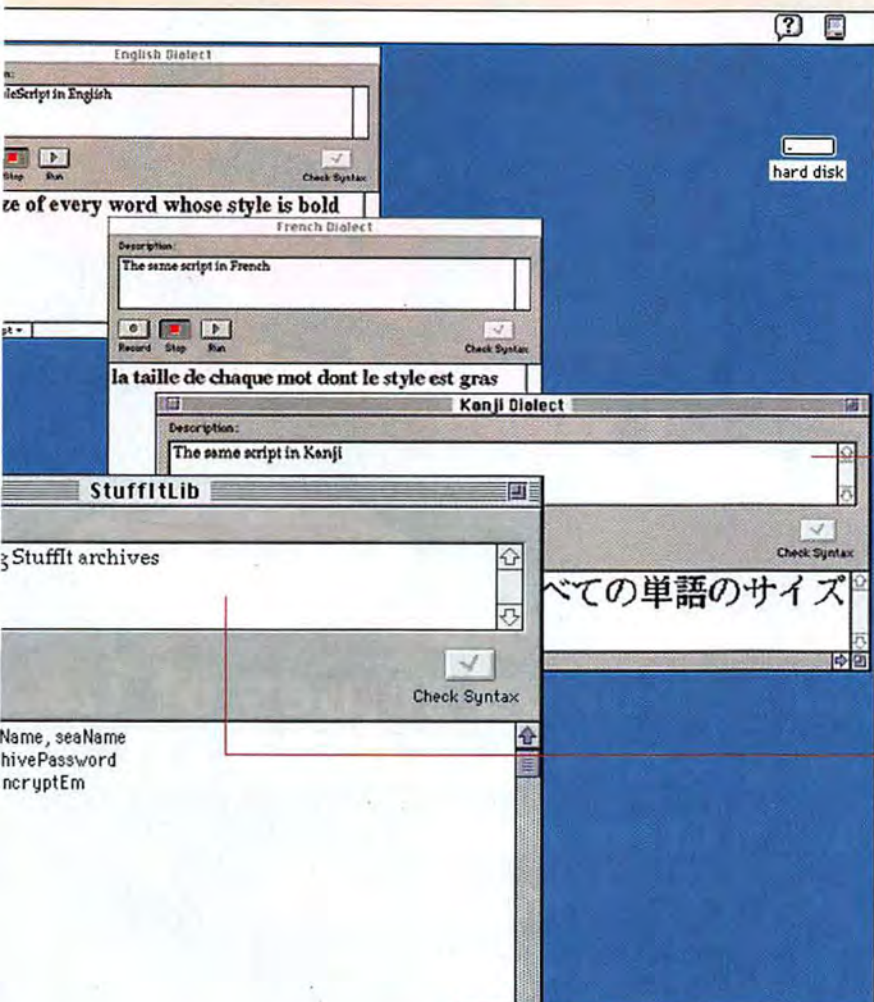
AppleScript scripts are files like any others. To run one, you double-click on its icon (for example, the Stuffit Script icon shown here for Aladdin Systems' Stuffit Deluxe) to open it and then run it from within the Script Editor. The script then controls other applications, making them perform tasks without your having to do anything.

AppleScript REQUIREMENTS

System: 7.0 or later.
RAM: 4 megabytes.
Disk space: 1 megabyte.
Minimum processor: 68000.



Droplets Another way to use AppleScript is to create a small stand-alone application — called a *droplet* — that runs a script on a specific set of files. These files are usually dragged and dropped onto the droplet; for example, DropStuff contains an AppleScript script that causes Stuffit Deluxe to compress files that are dropped onto it.



Kanji AppleScript Another interesting feature of AppleScript is that it's multilingual. An AppleScript script that's written in English can be moved over to a system running KanjiTalk or one of the many other language systems AppleScript supports, and translation is automatic.

The AppleScript Editor AppleScript authors can use the Script Editor to create and modify scripts for automating tasks, such as compressing files. The easiest way to create a script is to "record" your actions. Unfortunately, very few scriptable applications currently allow themselves to be recorded; most just let themselves be controlled by a script.

WHAT'S IN and What's Out

Several applications already use AppleScript to streamline operations, and more scriptable applications are on the horizon. Here's a quick rundown on the top ones available.

The Microsoft Excel 4.0 you've had on your hard disk all these months is scriptable. You can use AppleScript to enter and retrieve data from cells, make charts, and perform calculations. Combine this with the ability to get data to and from other apps via AppleScript, and you can use Excel as a calculation engine. Claris FileMaker Pro 2.0 also lets you move data in and out of databases and perform other standard database-related functions via AppleScript.

QuarkXPress 3.2 is an excellent application for AppleScript, and the product ships with an AppleScript demo to help get you started. In addition to streamlining production tasks, you can extract data from applications such as Excel and FileMaker Pro

and automatically create documents based on this gathered data.

Aladdin Systems' Stuffit Deluxe 3.0 has a broad suite of options that let you integrate data compression and decompression into your work flow. If you want to regularly archive certain files, using Stuffit via AppleScript to automate the process is definitely a convenient way to go.

On the image-compression front, Storm Technology's PicturePress 2.5 is also an eminently scriptable application. With the help of the included Frontier run-time module and scripts (whose functionality can be duplicated in AppleScript), you can set up watched folders in which to put the image files you wish to compress. A script running in the background checks these folders regularly and calls PicturePress if anyone places a file in such a folder—the resulting compressed file is then placed in an "out" folder.

—Stephan Somogyi

**A million ways to increase
your productivity...
And they're all**

FREE!
Between now and December 31,

Experience
incredible creative power!
K&S POWER TOOLS
Gradient Designer
included with **COLOR IT!**

**MicroFrontier Inc.,
will give away one million copies of its
award-winning program, COLOR IT!,
for the Macintosh.**

To receive yours, simply call...

1-800-949-5555 *Limit One Per Customer!*

**COLOR IT! version 2.3 is Brand New
and it's really two programs in one...**

- ▶ **A 32-bit, 16 million color paint program.**
- ▶ **A professional image editing program.**

Call TODAY for your FREE* copy.

**All you need is a color capable Macintosh.
Once the free copies are gone, the price is \$149.95.
Don't wait. Even if you already have another paint,
creative or editing program,**

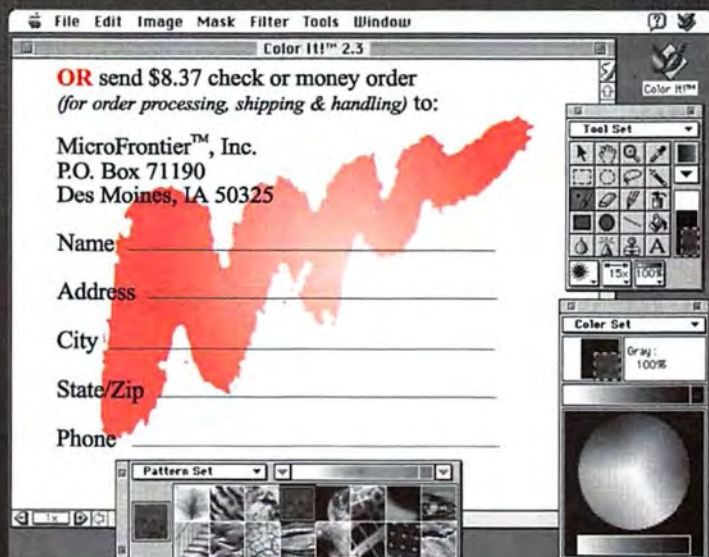
**You can't afford not to take advantage
of this once-in-a-lifetime offer!**

To make the free software offer even better we've included
special offers, rebates or discounts on products from: **
LaCie, Thunderware, Lizard Tech, Digital Vision,
Expert Software and Photone International.



MicroFrontier

P.O. Box 71190, Des Moines, IA 50325



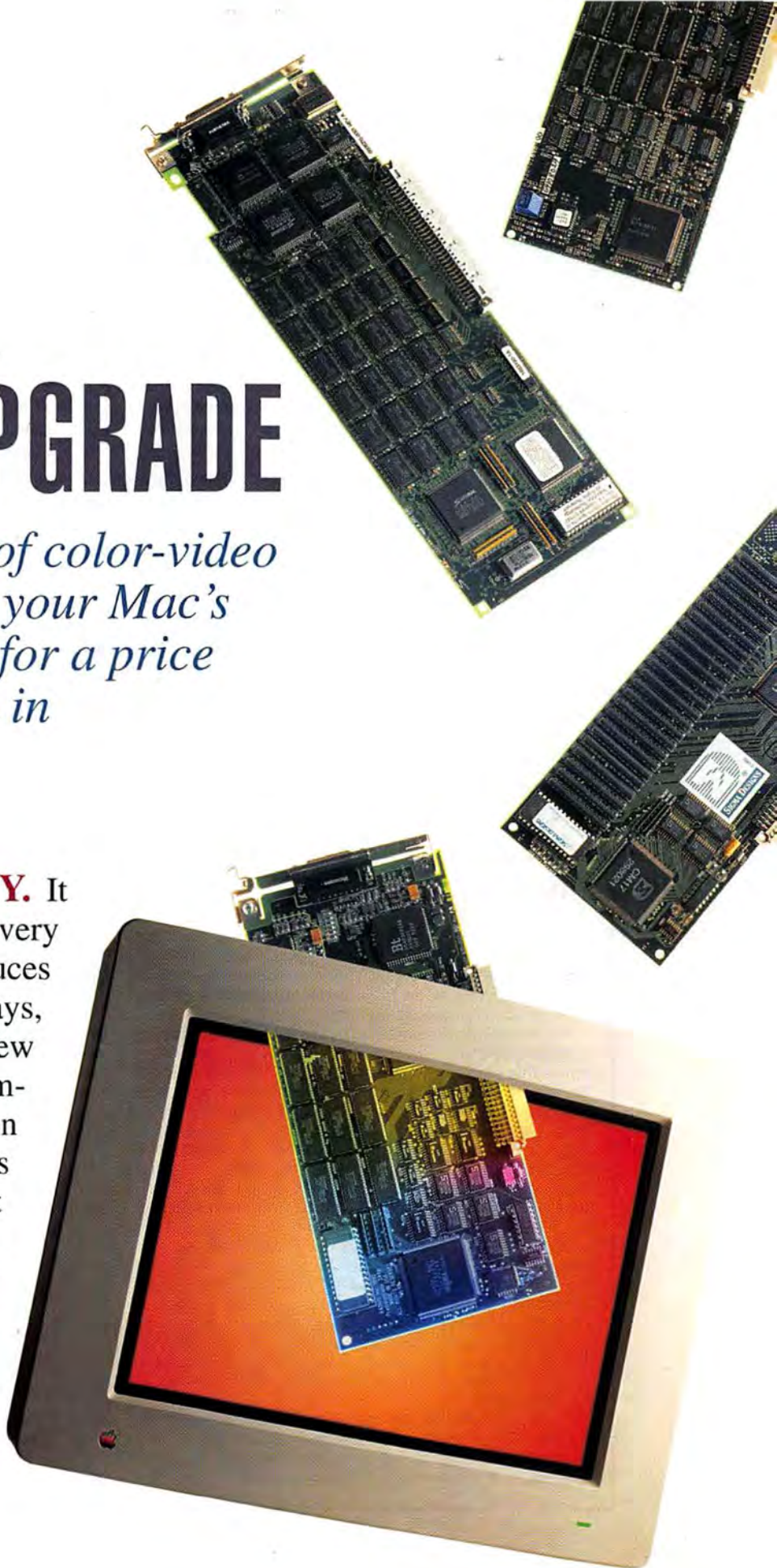
* Non-refundable nominal fee of \$8.37 charged for order processing, shipping and handling. Offer valid in U.S.A. only. MC/Visa
** Offers subject to change. Certain restrictions may apply.

All product and company names referenced herein are trademarks of their respective owners.

Affordable **COLOR UPGRADE**

The current pack of color-video cards can expand your Mac's color horizons — for a price that won't put you in the red. **BY PAUL YI**

U**PGRADE ENVY.** It nags Mac users every time Apple introduces a new Mac model. These days, it seems to take just a few months for your new, improved Mac to wind up on the discontinued list. What's a Mac user to do? You might feel you've just got to buy a new Mac — after all, the new ones run faster and you get more colors on larger screens.



Color-Video Cards

Speed aside, if it's more colors you want, put away that Apple catalog, because your trusty NuBus Mac is not obsolete yet. Instead, spend as much as you can on a high-quality color monitor and then invest less than \$1,000 in a video card. Of course, you have to make sure you get the right card, because video cards vary greatly in the speed they provide and in the types of monitors they support.

Several of the newest Macs — the Quadras and the Centris family — support 16-inch monitors with 16-bit color (thousands of colors) or 24-bit color (millions of colors), depending on the Mac model and the amount of VRAM (video random-access memory) installed. We looked at 13 color-video cards — each costing less than \$1,000 — that can upgrade NuBus Macs (the Mac II, Centris, and Quadra families) to at least 16-bit-color capability. (See the "PDS, I Love You" sidebar for options for

SE/30s and LCs.) Some of these NuBus cards provide for 24-bit color on monitors as large as 20 inches.

Of course, you can spend several thousand dollars for a video card alone. High-end cards such as those in the SuperMac Thunder series retail for \$2,599 and up. Part of the reason they cost

so much is that they contain the latest, fastest acceleration technology and support 24-bit color on large monitors. We tested the SuperMac Thunder/24 and found it provided twice the speed of the best-performing low-cost cards. Even-more-

At a Glance

▶ Radius PrecisionColor 24Xp	
▶ SuperMac Spectrum/24 Series IV	
E-Machines ColorLink SX/T	
E-Machines ColorLink SX/2	
E-Machines Futura MX	
E-Machines Futura SX	½
Lapis ProColorServer 8•16	
Lapis ProColorServer 24	½
Lapis ProColorServer 24x	½
RasterOps PaintBoard Li	
RasterOps 24Mx	
Sigma ColorMax Turbo	
SuperMac Spectrum/8•24 PDD	½
▶ MacUser Bottom Line pick	

expensive multimedia cards can also digitize video from your TV or VCR to allow you to work with video images on your Mac.

But if you do not work with high-end graphics software that requires blazing speed, save your money. For business presentations that have colorful graphs and newsletters

that have semicomplexed graphics, the cards we looked at for this review give you good performance for the price. Ten come with video acceleration, which speeds up screen drawing and scrolling significantly. Two — the E-Machines ColorLink

PDS, I Love You

In our lab tests, we focused on color-video cards for NuBus Macs (the Mac II, Centris, and Quadra families). Although not as many cards are available for owners of LCs and SE/30s, a few do provide 24-bit color for these PDS (processor-direct slot) Macs.

For those who are smarting over their LC or LC II being outdated by the LC III, Extreme Systems shipped three cards this summer to ease the pain. The Impact RGB Series cards are combination CPU-accelerator and video cards. Not only do they make your machine faster than an LC III but also the high-end card gives you millions of colors (24 bits) on a 16-inch monitor or 256 colors (8 bits) on a 21-inch monitor, for \$899. The least expensive card in the series supports 24-bit color on 13- and 14-inch monitors and 8-bit color on 16-inch ones, for \$699. Extreme Systems, 1050 Industry Drive, Tukwila, WA 98188; 800-995-2334 or 206-575-2334.

An even-lower-cost way to add color to an LC is with the \$249 ColorBlaster LC, a VRAM SIMM from DGR Technologies. It gives you 16-bit color on a 14-inch monitor and leaves the PDS free for an accelerator or an Ethernet card. It also lets you enlarge a QuickTime frame to almost full-screen size. DGR Technologies, 1219 W. 6th Street, Austin, TX 78703; 800-235-9748 or 512-476-9855.

Another VRAM SIMM, the Video 4000R (\$299), from Applied Engineering, also lets the LC, the LC II, and Performa 400s display 16-bit color on 14-inch monitors.

Applied Engineering's VideoX expansion card for

LCs gives you 16-bit color on monitors as large as 19 inches. It plugs in to the company's TransWarp 4300 CPU accelerator, which means you have to buy that too, if you don't already own one. You can pay a bit more to get Ethernet support on the flip side of the VideoX, giving you everything you can possibly fit into an LC's PDS slot. Pricing was not fixed at press time. Applied Engineering, 3210 Bellline Road, Dallas, TX 75234; 800-554-6227 or 214-241-6060.

Lapis has one of the few cards that add color to an SE/30. The three ProColorServer cards we tested come in PDS versions for the SE/30, IIsi, LC, LC II, LC III, and LC 520. Prices: \$499 to \$699. Lapis Technologies, Inc., 1100 Marina Village Parkway, Suite 100, Alameda, CA 94501; 800-435-2747 or 510-748-1600.

— Nancy Peterson



Using a ProColorServer video card from Lapis is one of the only ways to use a color monitor with the SE/30.

SX/T and ColorLink SX/2 — offer Ethernet support, providing a single card that supports your monitor and connects you to your office network while filling only one NuBus slot.

To Buy or Not to Buy

When you upgrade to a larger monitor or one that displays more colors, before you sink money into buying a video card, make sure you really need one. The 13 cards reviewed here are for NuBus Macs, but not all NuBus Macs are the same. Your Mac may already support the monitor you've chosen, or you may just need to add VRAM SIMMs. If you put 1,024K of VRAM (at a street price of about \$100) into one of the Centris computers, you can get 16-bit instead of 8-bit color on a 16-inch monitor. The drawback is that you don't get video acceleration.

Be sure to look carefully at your Mac's video capabilities before going ahead with an upgrade. An upgrade chart that outlines every Mac's video capabilities is available on CompuServe and AppleLink. If you're a member of ZiffNet/Mac (hosted on CompuServe), download it from Library 7 of the Download & Support Forum; the filename is SVMACS.SEA (QuickTime version) or DBMACS.SEA (FileMaker Pro version). On AppleLink, go to ZiffNet Selections:MacUser Software: Reference.

If you really need speed, buying a video card might not be the wisest choice. It might be best to save up for a CPU accelerator or even a newer and faster Mac. Accelerating QuickDraw operations, which is what an accelerated-video card does, speeds up screen-related tasks only. To accelerate your Macintosh's computational operations, such as spreadsheet recalculation — or even the application of Photoshop filters — you need a CPU accelerator. Read "Supercharging Your Mac: 100 Accelerated Systems" (April '93, page 118) for further information about CPU acceleration.

Monitor Your Decision

If you do decide to purchase a video card, you need to make two decisions before you buy: What size monitor do you want to use, and how many colors do you need? One of the most confusing things about video cards is identifying which ones work with which monitors. That's why we recommend you choose your monitor first and that you invest in a good one. Although a video card controls the time it takes to draw and scroll an image on-screen and the

number of colors available, the monitor is responsible for the quality of the display — how crisp, clear, and stable the image is.

Make sure the card you buy supports your monitor's resolution and scan rate. A monitor's resolution tells you how many pixels can fit on-screen and how many lines of text, or how much of a page, will be visible. For a 16-inch Mac monitor, the resolution is 832 pixels horizontally by 624 pixels vertically, producing a WYSIWYG image: What you see



Figure 1: Overall Speed

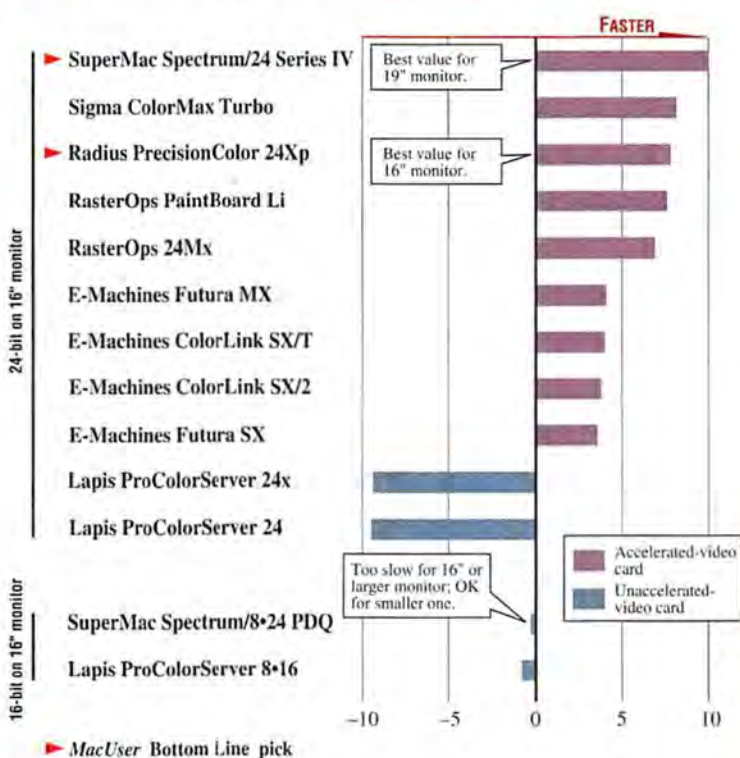
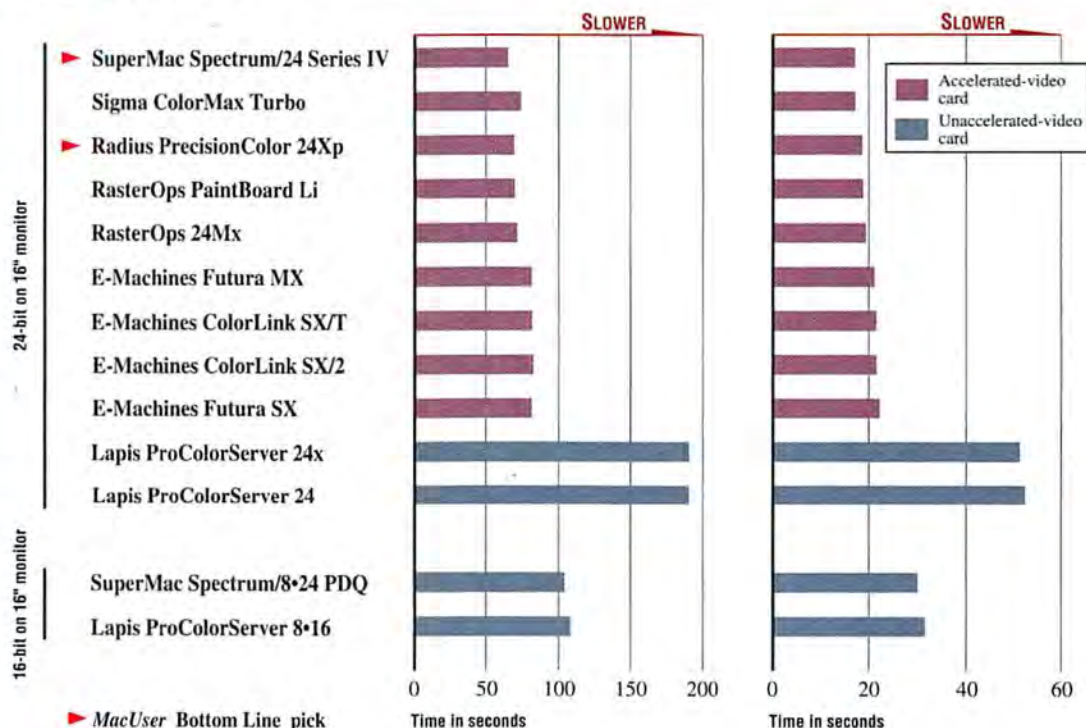


Figure 1: We combined the results of our Word and Photoshop time tests to arrive at an average speed ranking. The maximum possible score is 10. We deemed cards with negative scores to produce unacceptably slow results. We tested each card at the maximum bit depth (maximum number of colors) it could support on a 16-inch Apple monitor. The two cards at the bottom of the chart could not support 24-bit color on 16-inch monitors, so we tested them in 16-bit-color mode. Even though they had less information to process, they took longer than most of the other cards, because they do not accelerate video in 16-bit mode.



Figure 2: Accelerating Your Buying Decision

Figure 2: When upgrading your computer to display more colors, the first problem you're likely to run into is a sluggish Mac. To avoid that problem, consider spending a little extra for an accelerated-video card. The SuperMac Spectrum/24 Series IV produced the fastest results in all of our tests. It's more expensive than most of the other cards, but you get fast 24-bit color on monitors as large as 20 inches. The Radius PrecisionColor 24Xp is the best value if you have a 16-inch monitor; among the cards that come close in the speed they provide, none can compete with its price.



Word Scroll

All the accelerated-video cards provided similar times for scrolling through a ten-page Microsoft Word 5.0 document. The Lapis ProColorServer 8•16 took less time than the other two Lapis cards because it was running in 16-bit mode and had less information to process.

Photoshop Scroll

Using each card, we timed how long it took to scroll through a 2.3-megabyte, 24-bit graphic image, 14.2 inches wide by 10.7 inches high, in Photoshop.

on-screen is pretty close to the size you get when you print it out.

The scan rate dictates how fast the scanning electronics in the monitor draw the image on your screen. On a 16-inch monitor with a resolution of 832 x 624 pixels, the scan rate for the Mac is 75 hertz.

Once you've chosen a monitor, one more consideration before you choose your new video card is how many colors you need. (See the "A Little Bit's Better" sidebar for tips on using different bit depths.) If you want 24-bit color on a 16-inch monitor and you don't foresee moving to

a larger one, consider the Radius PrecisionColor 24Xp, the RasterOps 24Mx, or the E-Machines Futura SX. If you want 24-bit color on a 19-inch monitor, you'll have to choose among the more expensive cards we tested: the E-Machines Futura MX; the RasterOps PaintBoard Li; the Sigma

ColorMax Turbo; or the SuperMac Spectrum/24 Series IV, which also supports 24-bit color on 20-inch monitors.

We don't recommend the Lapis ProColorServer 8•16 and the SuperMac Spectrum/8•24 PDQ if you have a 16-inch or larger monitor. Although the Lapis card is the least expensive one we tested, for a street price of only about \$100 more, you can get 24-bit support with the E-Machines Futura SX or the Radius PrecisionColor 24Xp. The SuperMac Spectrum/8•24 PDQ is not a good card for a 16-inch or larger monitor if you also want realistic color. But if you choose a monitor as small as 14 inches, this card performs well, because it supports accelerated 24-bit mode at that size.

Fast Decision

Once you've narrowed down your video-card choices, based on monitor and bit-depth support, the next consideration is speed. Using 24-bit color often means playing the waiting game. An accelerated card can



How We Tested Color-Video Cards

What do the Centris 610, Centris 650, and Quadra 800 have in common? They each are available with enough VRAM to support 16-bit color on a 16-inch monitor.

We tested the quality of video cards that bring other NuBus Macs up to this new standard.

We used an Apple 16-inch color monitor hooked up to a Mac IIci with an 80-megabyte internal hard drive and 8 megabytes of RAM. System 7.0 with System 7 Tune-Up was installed. We tested the video cards at their maximum bit depth (greatest number of colors) at a resolution of 832 x 624 pixels.

To see if video cards affect image quality, we measured the stability and brightness of screen images. If the monitor's electron beams stray from their intended path, blurry or unstable images can result. We measured that instability (jitter, drift, and swim), if any, using a Microvision Superspot 100 System. To prevent vibrations, we placed the monitor and the Superspot on a Newport Optical Table. We tested brightness and color temperature (the tint of the white

on-screen) with a Minolta CRT Color Analyzer CA-100.

The differences in image quality with the cards were insignificant. The real differences showed up in the speed tests. We timed how long it took to redraw the screen with each card while scrolling in Word 5.0, PageMaker 4.2, and Photoshop 2.5. We also timed zooming in PageMaker from normal size to 400 percent, back to normal, and back to 400 percent again. We used the ZD Labs-produced QuickTool 1.5b1 software to see how many frames per second a QuickTime movie played.

To check speeds with different bit depths, we timed three cards in 1-, 2-, 4-, 8-, 16-, and 24-bit modes while scrolling in Photoshop. We also timed a Word scroll with one unaccelerated-video card and two accelerated-video cards at every bit depth each card supported.

— Brian Fikes

A Little Bit's Better

There's a price to pay for 16.8 million colors — time. Every time you scroll, zoom in or out, or click on a new window, the Mac and the video card have to update the screen and process every pixel. In 24-bit mode, they have to process more information than in 8- and 16-bit modes. The trick to saving time is working smarter:

- **Work in the lowest bit depth possible.** If you're doing word processing or working with spreadsheets that don't require color, switch to 1-bit mode (black-and-white). Use no higher than 4-bit mode (16 colors) if you need to see colored text.

- **If you're working with 24-bit images,** you can save time by performing some of your non-color-critical operations in 16-bit mode. But if you switch to 8-bit mode or less, things will actually slow down, because the Mac has to spend a lot of time dithering the colors.

- **You can switch bit depths quickly** if you have System 7: Make an alias of the Monitors control panel, and put it on your desktop or into the Apple Menu Items folder in your System Folder. That way, you'll have quick access to the control panel that lets you switch among bit depths with one click.

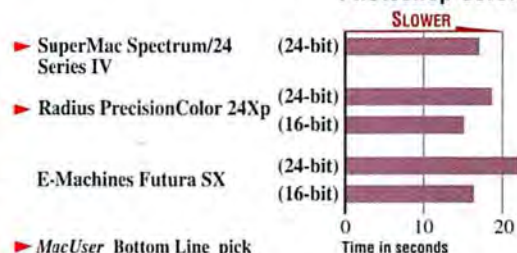
- **Some shareware utilities make** switching bit depths as easy as clicking on a button. Utilities such as ColorAlias, ColorSwitch, DepthGauge, Fast Switchers, Screen Flipper, and Switch-a-Roo are available from

on-line services. To get them from ZiffNet/Mac, MacUser's on-line service, type GO ZMC:DOWNTech and look in Libraries 1 and 3.

- **For QuickTime movies,** use 16-bit color. With moving images, you really can't see the difference between 16- and 24-bit color. In 16-bit mode, movies run faster and smoother than they do in 24-bit mode.

— Nancy Peterson

Photoshop Scroll



The best bit depth to work with depends on which card you buy. Generally, working in 16-bit mode is significantly faster than working in 24-bit mode. The SuperMac Spectrum/24 Series IV doesn't support 16-bit mode, but that doesn't matter, because its 24-bit mode is so fast.

Color-Video Cards

make the difference between winning the game and throwing in the towel.

Every time you scroll through text or add a new element to a drawing, the Mac has to process QuickDraw commands (a set of instructions that tells the monitor how to draw text and graphics) to rebuild the screen image pixel by pixel. The Mac then dumps the new screen-image data across the NuBus to the video card. An accelerated-video card speeds things up by intercepting the QuickDraw commands from applications and processing them faster than your Mac's CPU can. QuickDraw commands are more compact than screen-image data, so it takes less time for

an entire command to get to the video card.

We ran real-world speed tests with the 13 video cards to see how they compared and to see the difference between accelerated- and unaccelerated-video cards. (See the "How We Tested Color-Video Cards" sidebar for a description of our tests.) All but the three from Lapis are accelerated-video cards. The SuperMac Spectrum/8•24 PDQ accelerates video in 8- and 24-bit mode but not in 16-bit mode, the greatest bit depth it supports on a 16-inch monitor.

When we compiled the results (see Figure 1), the overall conclusion was clear: Purchase an accelerated-video card. Scrolling from the beginning

to the end of a ten-page Microsoft Word document (see Figure 2) took 2 minutes longer with the Lapis ProColorServer 24 and ProColorServer 24x unaccelerated-video cards than it did with the SuperMac Spectrum/24 Series IV accelerated-video card, which finished in 1 minute, 5 seconds. When you're scrolling through a document, 3 minutes is a long time to wait.

With the accelerated-video cards, the longest and the shortest times — using the E-Machines ColorLink SX/2 and the SuperMac Spectrum/24 Series IV, respectively — were separated by just 17 seconds, a tolerable wait. All things being equal, you would, of course, pick the card

Rating Tech Support

Because 9 of the 13 cards we tested were so close in terms of the speed and the image quality you get with them, you have to look at other factors, such as price and vendor reliability, to choose one. Prices are listed in Table 1. That's easy. Judging reliability is tougher. To help you out, we evaluated each company's tech support in terms of expertise and willingness to assist customers.

We made at least three anonymous phone calls, asking three questions of each vendor. If the tech-support representatives answered incorrectly the first time, we called back later to see if they could get it right the second time.

E-Machines' tech support excelled, whereas Sigma Designs' support staff provided service that was only fair.

The questions we asked and the answers we expected were as follows:

Q. I'm running a 16-inch monitor with your card and an Apple 13-inch monitor from the video port of my IICI. Is there a way to make programs appear on the larger monitor without dragging them there?

A. Open the Monitors control panel (or the vendor's own control panel, if it replaces Apple's), and drag the menu bar from the small to the large monitor icon.

Q. I switched from an Apple 13-inch monitor to a NEC 5FG and am still using your video card. How can I get a higher resolution than 640 x 480 pixels?

A. Buy an adapter from NEC, or hold down certain keys while booting the Mac. *[Because hardware and software solutions are possible, we accepted any answer that corrected the problem. — Ed.]*

Q. I installed your card and hooked up a 16-inch Apple monitor to my Mac IICI, but nothing whatsoever appears on-screen.

A. On the Mac IICI, the built-in video port doesn't support a 16-inch monitor's resolution. Unplug the monitor cable from the video port, and plug it in to the card instead. Restart if your picture is still missing.

Key			Excellent
			Good
			Fair
			Poor

E-Machines

E-Machines' tech support was impressive. The representatives answered all of our questions correctly and quickly on the first try and patiently waited to make sure we fixed each problem before they hung up.

Lapis Technologies

Overall, Lapis' tech support was fast and accurate. The reps stumbled over the question about changing resolutions but got it right the second time.

Radius

The reps answered all the questions correctly, although one question needed two phone calls before they got it right. One time we were put on hold for seven minutes.

RasterOps

Although RasterOps' tech-support reps knew the answers to our questions, their responses were short and they put us on hold between instructions.

Sigma Designs

Sigma Designs gave us a mixed bag of responses. Overall, the staff was friendly and accurate, but one representative went through several suggestions before finding the correct answer and another couldn't give the correct answer at all. The most disturbing problem was how quick they were to suggest sending the board to our dealer for repair/replacement.

SuperMac

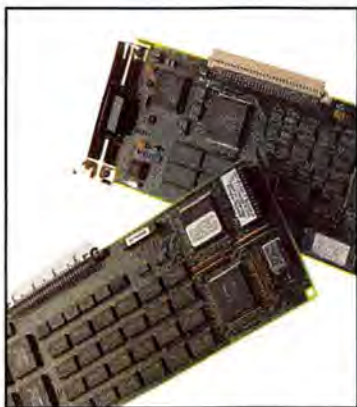
As long as we were willing to wait, the reps delivered the right answer. We had to wait for callbacks; one representative went through a time-consuming sequence of possible solutions before arriving at the right one.

► The Bottom Line

When we went looking for inexpensive video cards for upgrading Macs to work with monitors that have more colors and larger screens, we didn't expect to find such a strong collection of products. Almost all the cards we tested offer good performance and features for their low price. The main differences among the cards lie in their monitor support and the drawing speeds they provide. Two cards stand out as exceptional buys.

For those who want maximum bit depth and don't foresee going beyond a 16-inch monitor, the **Radius PrecisionColor 24Xp** (\$599 list, \$485 street) is an excellent buy. It's one of the least expensive cards we tested, and it accelerates video. It also supports 24-bit color on monitors as large as 16 inches, including the Radius Color Pivot.

The **SuperMac Spectrum/24 Series IV** (\$949 list, \$780 street) was the 24-bit card that provided the greatest speed with a 16-inch monitor. It's one of the more costly cards, but it's the only one that



The Radius PrecisionColor 24Xp (top) and the SuperMac Spectrum/24 Series IV are the best values among color-video cards costing less than \$1,000.

supports 24-bit color on monitors as large as 20 inches. This card offers enough flexibility and screen-drawing power to satisfy your display needs, but it doesn't support 16-bit color — a potential handicap for QuickTime users.

that gave you the shortest times. But things not being equal, your buying decision also depends on factors such as cost and monitor support.

The Photoshop scroll test (see Figure 2) showed slightly less dramatic results, with the general order remaining the same. With the SuperMac Spectrum/24 Series IV, the test took 17 seconds, and with each of the two 24-bit Lapis unaccelerated-video cards, it took 52 seconds. Do you want to wait almost a minute every time your Mac has to redraw a file that contains a 24-bit image? The answer to that question is what will dictate whether or not you fork out the extra \$300 (the typical street-price difference) for an accelerated-video card.

If you just don't have the money to spend on an accelerated-video card for a 19-inch or larger monitor, you can save time by usually working at lower bit depths. (See the "A Little Bit's Better" sidebar for tips.)

A Perfect Match

In the past, we've recommended buying a complete display system — a monitor and a card — from a single, Mac-specific manufacturer. Today, though, it pays to mix and match. You can save money without sacrificing quality, but make sure the monitor and the card work together. Remember: A video card must support a monitor's resolution and its scan rates. Speaking of support, you should consider how the companies that sell these cards handle their customers' problems. Look at the "Rating Tech Support" sidebar to find out about our experiences in getting help from these vendors.

Choose your monitor first, and then find the least expensive accelerated-video card that supports it. The best way to avoid a bad match is to plug the card and monitor in and take a look before you leave the store. If you're ordering by mail, be sure to get a money-back guarantee that

allows you enough time to make sure you've found the perfect match.

Paul Yi, a former *MacUser* associate editor, is a consultant and technical writer. Project leader Brian Fikes and senior project leader Katherine Barnes managed ZD Labs' testing for this report.

Table 1 Criteria

List price — The vendor's suggested retail price.

Street price — The average price from U.S. dealers and mail-order houses in July 1993.

Bit-depth, monitor support — The maximum color bit depth for each monitor size. The listed bit depth works on smaller monitor sizes as well as the size listed.

Macs supported — All the Macs that are compatible with the card.

Power consumption — The maximum power the card requires, in watts.

QuickDraw acceleration — Does the card offer on-board QuickDraw acceleration? Specific bit depths are listed if acceleration doesn't apply to all.

Brightness and contrast — Software that lets you change brightness and contrast from the Mac desktop rather than with monitor controls.

Extended/virtual desktop — A software or hardware feature that makes the desktop larger than your screen area.

Monitor sensing — A software feature that detects if the monitor is turned off or disconnected.

Pan — A software or hardware feature that allows you to scroll around on a screen that's larger than your physical screen.

Screen saver — Software that changes the screen image to prevent screen burn-in after the keyboard and mouse have been idle for a specified time.

Resolution switching on the fly — A feature that lets you change monitor resolutions without restarting your computer. Your monitor must support more than one of the resolutions the card supports.

Zoom — A hardware feature that lets you magnify the screen by two, four, or eight times.

continues ►

Color-Video Cards

Table 1: Features of Color-Video Cards

	E-Machines ColorLink SX/T \$\$\$	E-Machines ColorLink SX/2 \$\$\$	E-Machines Futura MX \$\$\$	E-Machines Futura SX \$\$\$½	Lapis ProColorServer 8•16 \$\$\$
List price	\$749	\$749	\$949	\$549	\$499
Street price	\$650	\$650	\$790	\$495	\$380
Pros	Supports Ethernet. Excellent tech support. 5-year warranty.	Supports Ethernet. Excellent tech support. 5-year warranty.	24-bit color on 19-inch monitor. Excellent tech support. 5-year warranty.	Inexpensive. Fast. Excellent tech support. 5-year warranty.	Least expensive card. Same card available for PDS Macs.
Cons			Expensive for what you get.		Slow. Unaccelerated video at all bit depths.
Compatibility					
Bit-depth, monitor support	8-bit, 19-inch; 16-bit, 16-inch; 24-bit, 16-inch	8-bit, 19-inch; 16-bit, 16-inch; 24-bit, 16-inch	8-bit, 19-inch; 16-bit, 19-inch; 24-bit, 19-inch	8-bit, 19-inch; 16-bit, 16-inch; 24-bit, 16-inch	8-bit, 21-inch; 16-bit, 16-inch; no 24-bit support
Macs supported	all NuBus Macs	all NuBus Macs	all NuBus Macs	all NuBus Macs	all NuBus Macs, LC family, Performa 400s and 600, SE/30
Design/construction					
Power consumption	6 watts	6 watts	5 watts	3.75 watts	6 watts
QuickDraw acceleration	yes	yes	yes	yes	no
Software and hardware features	brightness and contrast, extended/virtual desktop, pan, screen saver, resolution switching on the fly, zoom	brightness and contrast, extended/virtual desktop, pan, screen saver, resolution switching on the fly, zoom	brightness and contrast, extended/virtual desktop, pan, screen saver, resolution switching on the fly, zoom	brightness and contrast, extended/virtual desktop, pan, screen saver, resolution switching on the fly, zoom	monitor sensing
FCC certification	Class A	Class A	Class A	Class B	Class A
Warranty					
Repair site	dealer	dealer	dealer	dealer	dealer or direct
Standard warranty	5 years	5 years	5 years	5 years	1 year
Money-back guarantee	depends on dealer (usually 30 days)	depends on dealer (usually 30 days)	depends on dealer (usually 30 days)	depends on dealer (usually 30 days)	30 days
Company	E-Machines 215 Moffett Park Dr. Sunnyvale, CA 94089 800-344-7274 408-541-6100 408-541-7680 (fax)	E-Machines 215 Moffett Park Dr. Sunnyvale, CA 94089 800-344-7274 408-541-6100 408-541-7680 (fax)	E-Machines 215 Moffett Park Dr. Sunnyvale, CA 94089 800-344-7274 408-541-6100 408-541-7680 (fax)	E-Machines 215 Moffett Park Dr. Sunnyvale, CA 94089 800-344-7274 408-541-6100 408-541-7680 (fax)	Lapis Technologies, Inc. 1100 Marina Village Pkwy., Ste. 100 Alameda, CA 94501 800-435-2747 510-748-1600 510-748-1645 (fax)

WE'RE REDEFINING
WHAT YOU
SHOULD EXPECT
FROM
OFFICE PRINTERS.

Color-Video Cards

Table 1: Features of Color-Video Cards, continued

	Lapis ProColorServer 24 \$\$\$	Lapis ProColorServer 24x \$\$\$	▶ Radius PrecisionColor 24Xp \$\$\$\$	RasterOps PaintBoard Li \$\$\$	RasterOps 24Mx \$\$\$
List price	\$599	\$699	\$599	\$999	\$799
Street price	\$455	\$510	\$485	\$805	\$690
Pros	Inexpensive. Same card available for PDS Macs.	Same card available for PDS Macs.	Fast. Inexpensive. Best value for 24-bit color on 16-inch monitor.	24-bit color on 19-inch monitor.	
Cons	Slow. Unaccelerated video at all bit depths.	Slow. Unaccelerated video at all bit depths.	Limited to 16-inch or smaller monitor.	Expensive.	Limited to 16-inch or smaller monitor.
Compatibility					
Bit-depth, monitor support	8-bit, 21-inch; 16-bit, 16-inch; 24-bit, 16-inch	8-bit, 21-inch; 16-bit, 21-inch; 24-bit, 16-inch	8-bit, 16-inch; 16-bit, 16-inch; 24-bit, 16-inch	8-bit, 19-inch; 16-bit, 19-inch; 24-bit, 19-inch	8-bit, 16-inch; 16-bit, 16-inch; 24-bit, 16-inch
Macs supported	all NuBus Macs, LC family, Performa 400s and 600, SE/30	all NuBus Macs, LC family, Performa 400s and 600, SE/30	all NuBus Macs	all NuBus Macs	all NuBus Macs
Design/construction					
Power consumption	8 watts	8 watts	9.47 watts	15 watts	18.5 watts
QuickDraw acceleration	no	no	yes	yes	yes
Software and hardware features	monitor sensing	monitor sensing	screen saver, resolution switching on the fly	extended/virtual desktop, zoom	extended/virtual desktop, pan, zoom
FCC certification	Class A	Class A	Class B	Class A	Class A
Warranty					
Repair site	dealer or direct	dealer or direct	dealer	direct	direct
Standard warranty	1 year	1 year	1 year	3 years	3 years
Money-back guarantee	30 days	30 days	none*	none	none
Company	Lapis Technologies, Inc. 1100 Marina Village Pkwy., Ste.100 Alameda, CA 94501 800-435-2747 510-748-1600 510-748-1645 (fax)	Lapis Technologies, Inc. 1100 Marina Village Pkwy., Ste. 100 Alameda, CA 94501 800-435-2747 510-748-1600 510-748-1645 (fax)	Radius, Inc. 1710 Fortune Dr. San Jose, CA 95131 800-227-2795 408-434-1010 408-434-0770 (fax)	RasterOps Corp. 2500 Walsh Ave. Santa Clara, CA 95051 800-729-2656 801-785-5750 801-785-5775 (fax)	RasterOps Corp. 2500 Walsh Ave. Santa Clara, CA 95051 800-729-2656 801-785-5750 801-785-5775 (fax)

* Under Radius' 24-Hour Worry Free Warranty Program, you get a new card by 10:30 A.M. the day after you request it. Applies for one year at no cost.

▶ **MacUser Bottom Line pick**

Flexibility (ˌflek.səˈbil.ət.ē) *n.* 1, A feature previously not found in this category. *example:* For under \$800, **TI microWriter™** printers with **Adobe® PostScript®** give you more networking and paper handling *flexibility* than Apple and HP, at a lot lower price.



THE UNDER \$800 PRINTER, REDEFINED.

	TI microWriter PS23	Apple LaserWriter Select 310	HP 4ML
Print Speed	5 ppm	5 ppm	4 ppm
AppleTalk® Connection	Standard	Not Avail.	Standard
Paper Trays	(std.) 250 sheet (opt.) 250 sheet	250 sheet 250 sheet	100 sheet Not Avail.
Auto Emulation Switching	Standard	Not Avail.	Standard
List Price	\$ 799	\$ 1079	\$ 1279

If you're looking for a PostScript printer with a street price well under \$800, you'll have a hard time finding one with as many features as a TI microWriter.

Just look at the chart and compare it to our leading competitors, Apple and HP. Then, when you're ready for a full-featured printer that's truly flexible, at a price that's truly affordable, take a look at a TI microWriter. For more information or a dealer near you, call 1-800-527-3500.

EXTENDING YOUR REACH
WITH INNOVATION™

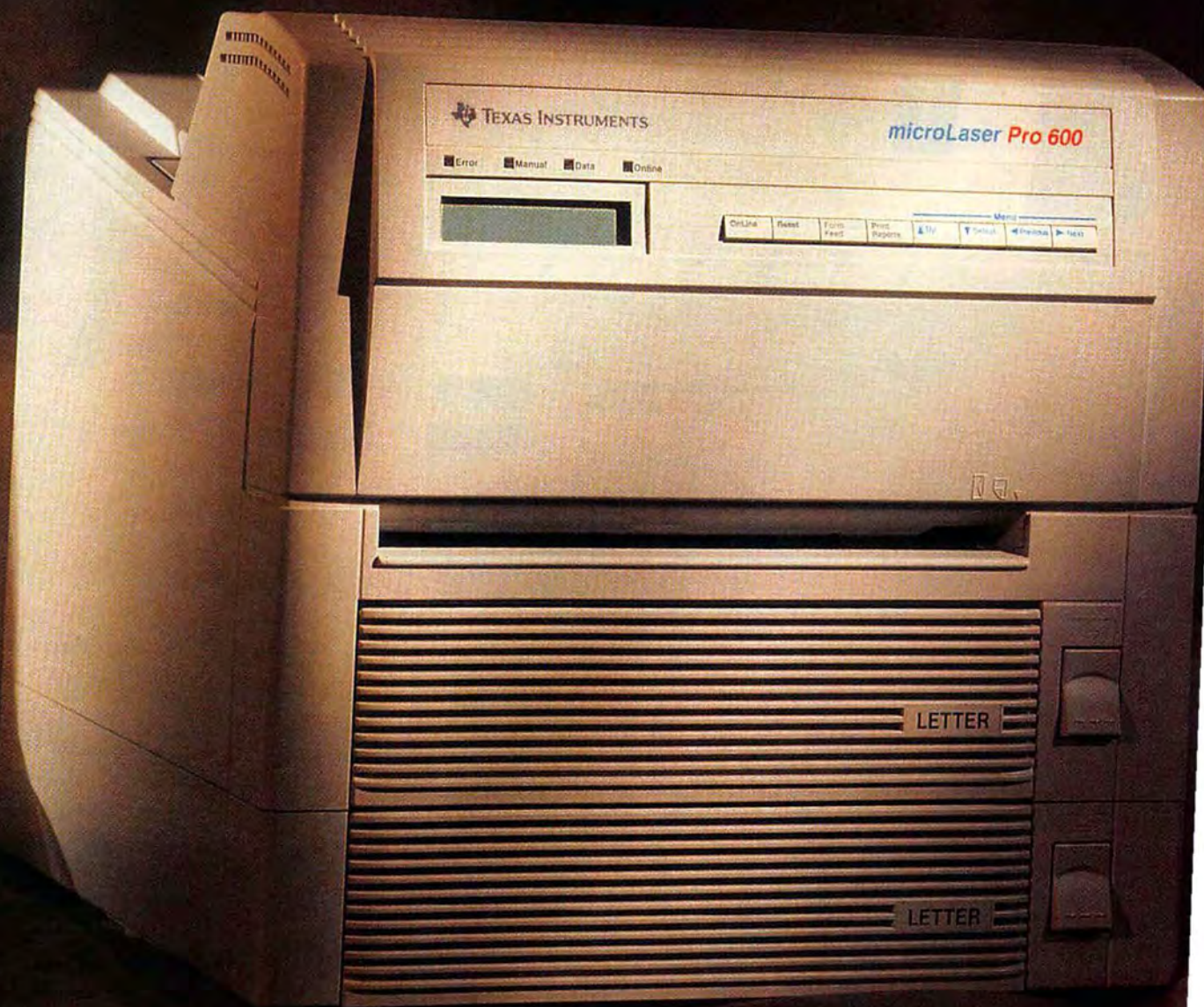
**TEXAS
INSTRUMENTS**



Specifications in chart are based on information as of 9/93. microWriter and "Extending Your Reach With Innovation" are trademarks of Texas Instruments. Adobe, PostScript and the PostScript logo are registered trademarks of Adobe Systems, Inc. AppleTalk is a registered trademark of Apple Computer, Inc. © 1993 TI.

CIRCLE 75 ON READER SERVICE CARD.

Compatibility (kəm·pat·ə·'bil·ət·ē) *n.* 1, A feature typically lacking in this category. *example:* The new **600 dpi TI microLaser™ Pro 600** printer gives you Mac®, DOS, Windows, PostScript® and PCL5 *compatibility* standard; Apple and HP charge hundreds more.



Adobe PostScript

Specifications in chart are based on information as of 9/93. *Estimated dealer price including manufacturer's rebate is under \$1400. Dealer prices may vary. †At 4% coverage. ‡Rebate applies to PS23 model. microLaser and "Extending Your Reach With Innovation" are trademarks of Texas Instruments. Adobe, PostScript and the PostScript logo are registered trademarks of Adobe Systems, Inc. LaserJet is a registered trademark of Hewlett-Packard, Inc. Mac is a registered trademark of Apple Computer, Inc. © 1993 TI.

THE UNDER \$1400 PRINTER, REDEFINED.

If you're looking for a true 600 dpi printer with a street price under \$1400, you'll have a tough time beating the new TI microLaser Pro 600.

You see, when we set out to design the ideal office printer, we began by asking thousands of users what they wanted most. And then, instead of

making those "key care-about's" optional, we made them standard.

Take print quality. We began with true 600 dpi resolution. And then enhanced it with 6MB of memory for improved graphics. Compatibility? We're Mac®, DOS and Windows compatible right out of the box. With all the right languages and interfaces. And with the intelligence to switch these automatically, depending on the environment. Low maintenance? Our new toner cartridge typically gives you 15,000 pages between changes.

Paper handling? Two 250-sheet trays come standard. And finally, value. Take a look at the chart below, compare features and price, and your choice should be simple.

So if you're considering a new printer, we invite you to try the new TI microLaser Pro 600. For more information or a dealer near you, call 1-800-527-3500.

Ask
About Our \$60
Introductory
Rebate.*

	TI microLaser Pro 600	Apple LW Pro 600	HP LaserJet 4M
True 600 dpi	Yes	Yes	Yes
Speed/Processor	8 ppm / RISC	8 ppm / 68030	8 ppm / RISC
Emulations	PCL5/ Adobe® PostScript 2	PCL4/ Adobe PostScript 2	PCL5E/ Adobe PostScript 2
Compatibility	Mac/DOS	Mac/DOS	Mac/DOS
Toner Cart. Life	15K pages ¹	6K pages	6K pages
Paper Trays	250 sheet/ 250 sheet	250 sheet/ 100 sheet	250 sheet/ 100 sheet
Auto Language Switching	Yes	No	Yes
Auto Interface Switching	Yes	Yes	Yes
List Price	\$1599*	\$2099	\$2399

EXTENDING YOUR REACH
WITH INNOVATION™

 **TEXAS
INSTRUMENTS**

CIRCLE 72 ON READER SERVICE CARD.

Color-Video Cards

Table 1: Features of Color-Video Cards, continued

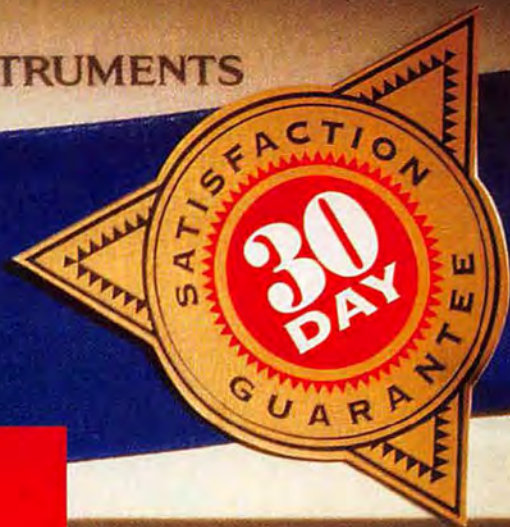
	Sigma ColorMax Turbo \$\$\$	SuperMac Spectrum/8•24 PDQ \$\$\$½	▶ SuperMac Spectrum/24 Series IV \$\$\$\$
List price	\$999	\$599	\$949
Street price	\$840	\$530	\$780
Pros	24-bit color on 19-inch monitor.	5-year warranty.	Fastest 24-bit card. Least expensive 24-bit card for 20-inch monitors. 5-year warranty.
Cons	Expensive. Inferior tech support.	Slow for 16-inch and larger monitors. Unaccelerated 16-bit color.	No 16-bit color.
Compatibility			
Bit-depth, monitor support	8-bit, 19-inch; 16-bit, 19-inch; 24-bit, 19-inch	8-bit, 21-inch; 16-bit, 19-inch; 24-bit, 14-inch	8-bit, 20-inch; no 16-bit support; 24-bit, 20-inch
Macs supported	all NuBus Macs	all NuBus Macs	all NuBus Macs
Design/construction			
Power consumption	9 watts	10 watts	10 watts
QuickDraw acceleration	yes	yes (8-/24-bit).	yes
Software and hardware features			
	monitor sensing, screen saver, resolution switching on the fly	extended/virtual desktop, pan, resolution switching on the fly, zoom	extended/virtual desktop, pan, resolution switching on the fly, zoom
FCC certification	Class B	Class A	Class A
Warranty			
Repair site	dealer (authorized facility)	dealer	dealer
Standard warranty	1 year	5 years	5 years
Money-back guarantee	depends on dealer	depends on dealer (usually 30 days)	depends on dealer (usually 30 days)
Company			
	Sigma Designs 47900 Bayside Pkwy. Fremont, CA 94538 800-845-8086 510-770-0100 510-770-2640 (fax)	SuperMac Technology 215 Moffett Park Dr. Sunnyvale, CA 94089 800-334-3005 408-541-6100 408-541-7680 (fax)	SuperMac Technology 215 Moffett Park Dr. Sunnyvale, CA 94089 800-334-3005 408-541-6100 408-541-7680 (fax)

▶ MacUser Bottom Line pick

Satisfaction (ˌsat·əs·fak·shən) *n.* 1, A feature previously left to chance in the purchase of a printer. *example:* When you buy a new TI printer*, your **satisfaction** is **guaranteed** or call TI within 30 days and we'll take it back.



TEXAS INSTRUMENTS



THE WAY YOU BUY A PRINTER, REDEFINED.

In the past year, we've introduced a whole new line of office printers. And as you've seen in the previous pages, they're some of the most advanced models on the market today. But now, we're also going to change the way you buy a printer.

When you buy one of these new TI printers, if you need any help at all, simply call us toll-free at 1-800-TI-TEXAS, and we'll work with you. Then, within 30 days from date of purchase, if you're still not completely happy, call TI and we'll take it back. It's as easy as that. That's how confident we are in each

and every printer we make. And even after the 30 days, you can continue to call the 800 number for any help you may need.

For more information about the TI microMarc™, the TI microWriter™ or the new TI microLaser™ Pro 600 printers, and for the name of a dealer near you, call 1-800-527-3500. And see for yourself how TI is redefining what you should expect from an office printer.

EXTENDING YOUR REACH
WITH INNOVATION™

 **TEXAS
INSTRUMENTS**

* Offer applies to all new TI microMarc, microWriter and microLaser Pro 600 printers, if returned in good condition. microMarc, microWriter, microLaser and "Extending Your Reach With Innovation" are trademarks of Texas Instruments. ©1993 TI.

CIRCLE 73 ON READER SERVICE CARD.

For an idea of how much
color copier experience we have
push this 1.2 billion times.

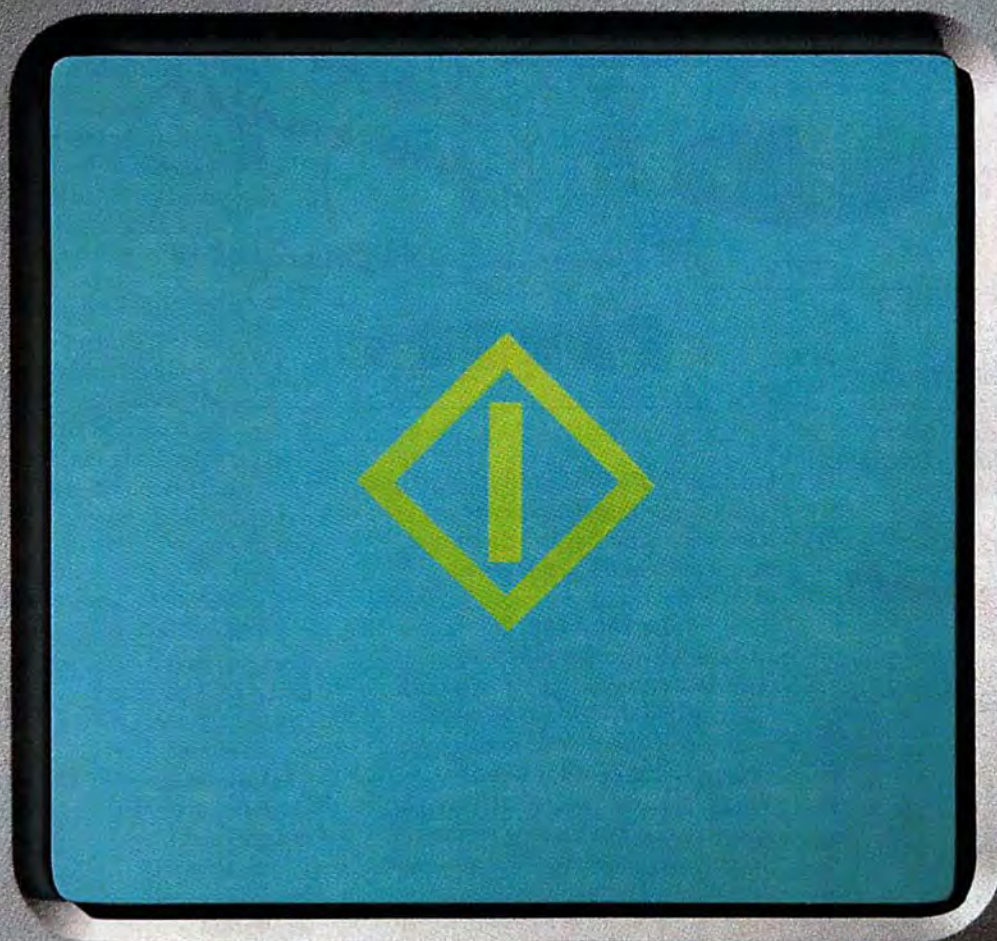
If the competition wants to match Canon's level of color copier experience, they'd better start pushing. Since 1987, when Canon introduced the world's first Color Laser Copier, our copiers have made a whopping *one billion, two hundred million* color copies.

But quantity alone hasn't made Canon the unsurpassed leader in color copiers for six



consecutive years. Just as important is Canon's unsurpassed *quality*.

Today, Canon makes the most technologically sophisticated color copiers available. With features like an incredibly brilliant 400 DPI (dots per inch) resolution. And 256 color gradations that can produce a mind-boggling 16.7 million colors.



Canon color copiers can even be connected to your computer. So powerful, eye-catching color graphics can be added to any business presentation or other important documents.

And because different work environments have different needs, Canon offers a choice of color copier solutions. Whether your

See us at Comdex LVCC Booth #L1844



requirements are small, medium, large, or even extra large, we have a copier designed to fit your business.

So if you want the quality that only a company with over a billion copies of color experience can offer, start pushing: 1-800-OK-CANON. We'll

rush you a free *Color Solutions* guide with even more reasons to choose Canon.

Canon

CIRCLE 57 ON READER SERVICE CARD.

New Quicken 4 will radically improve your financial organization in minutes.

There are over 4 million people managing their finances ... tracking their investments ... even running their small businesses with Quicken. So we knew an upgrade would have to be good. Really good. That's why you'll find over 100 important improvements in Quicken 4. Now it's even easier to use ... saves you more time ... and does much more. And it's still one of the best bargains for your Mac.

As easy as your checkbook



Quicken 4 is easier

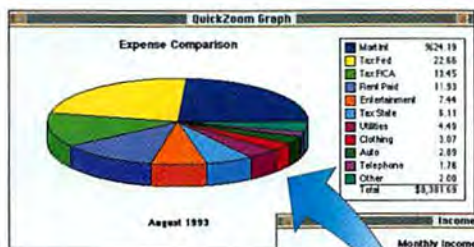
If you can use a checkbook, Quicken 4 is a no-brainer — you can use Quicken 4 without ever opening a manual. And because Quicken 4 categorizes all your spending — and income — you'll see at a glance where your money goes.



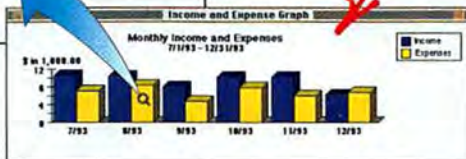
Less data entry

Quicken 4 saves you more time

Now you can take care of your bills in a fraction of the time it takes by hand. With QuickFill™, you'll never have to type the same transaction (like your monthly



Graphs give insight



QuickZoom™ shows you the numbers behind the numbers — from a spending category to an individual transaction — with just a double-click of your mouse.

Quicken 4 means business

Quicken 4 doesn't stop with personal finances. Our new Business User's Guide will show you how Quicken 4 can handle things like tracking projects by

job or client. Accounts payable and receivable. And, of course, expense tracking and allocation.

Quicken 4 saves you more

Perhaps best of all, Quicken 4 remains a bargain. And it comes with a 60-day money-back guarantee. Plus, if you're a previous owner of Quicken, you're eligible for a \$10 rebate when you purchase Quicken 4 from your favorite retailer.

So try new Quicken 4 — and see a radical improvement in your finances.



Quicken 4 does more

Quicken 4 makes even complex financial situations simple. It now tracks investments with ease. Calculates loan amortization with variable interest rates. Performs "what-if?" calculations for powerful financial planning. It even provides your Quicken Visa® card statement electronically. So you always have a complete financial picture at your fingertips.

Quicken 4 shows you more

Quicken 4 also gives you new insight into your finances. Vivid 3-D graphs make it easy to monitor your spending patterns more accurately. And



Over 100 new features & improvements

- Investment tracking
- Loan amortization
- QuickFill™ automatic data entry
- Automatic transaction entry
- Graphs - income/expense, net worth, budget, investment performance
- QuickZoom™ for reports and graphs
- Report improvements
- Financial planners - college, investment, loan, retirement, mortgage refinancing
- Tax Schedule reports and links
- IntelliCharge™ electronic Visa® statement
- And much more!

Upgrade for only
\$29.95

Plus \$5 shipping & handling, US\$8 in Canada
Or buy from your favorite retailer and get a \$10 rebate.

Purchase Quicken 4 for \$69.95
Or find Quicken 4 for even less at retailers everywhere.

To order direct, call

1-800-624-8742

24 hours a day, 7 days a week, U.S. and Canada

[Expires 1/30/94]

Ad Code: MUBFO

©1993 Intuit Inc. Quicken is a registered trademark and QuickZoom, IntelliCharge and QuickFill are trademarks of Intuit Inc. All other trademarks or registered trademarks are the property of their respective holders. IntelliCharge, loan amortization and tax features work only in the U.S. Requires 2 MB memory, hard drive, and System 6 or later. System 7 savvy. All prices are in U.S. funds. For more information and ordering outside the U.S. and Canada, call 1-415-858-6095.

THE MACUSER 100

Need something special
for your Mac-loving friends? Here are 100
bargain-priced gift ideas. **BY MICHELE HASSON,**

ROMAN VICTOR LOYOLA, AMANDA MICHAEL, AND JASON SNELL

Most of the year, we at *MacUser* concern ourselves with serious Mac issues: What's the best flat-file-database program? Which hard drive has the best price and performance? When's Apple going to ship that new piece of system software — and what will it mean for Mac users? But once a year, we have a less serious mission: find the 100 best Mac gifts that cost less than \$250 apiece, give or take \$100 or so. It's been a tough job — putting screen savers through their paces, painstakingly testing games, seeking out the finest Mac accessories — but now that we're finished, we're glad to report that no matter how many Mac users you have on your gift list this year, you're bound to find something that will please them *and* their Macs. To make shopping easier, we've made suggestions, from the silly to the sublime, for some typical Mac users: home businesspeople, PowerBook users, college students, kids, hobbyists, and game fanatics. So with no further ado: the fourth annual MacUser 100.

Michele Hasson and Amanda Michael are *MacUser* assistant editors, Roman Victor Loyola is a MacUser Labs technician, and Jason Snell is a *MacUser* intern.

The Home Office

More and more Mac users are running businesses out of their homes — you may even be doing it yourself. Here's a selection of products designed to help you whistle while you work.

1 Anti-Static Cleaning Towelettes

Work-at-home Macs are magnets for everything from cat hair to fingerprints. Clean up with **Anti-Static Cleaning Towelettes**, premoistened towelettes that clean your screen, remove dust-attracting static, and are guaranteed not to scratch or streak displays. Allsop; \$6.95.

2 Defying Gravity: The Inside Story of the Making of Newton

If you're following the development of palmtop organizers, you'll want to read **Defying Gravity: The Inside Story of the Making of Newton**. This pictorial history was put together by NBC news correspondent Markos Kounaliakis and *Newsweek* photojournalist Doug Menezes and follows the Newton team's progress as it developed and manufactured the Newton. Beyond Words Publishing; \$29.95.

3 Drive Tech Floppy Diagnostic

Drive Tech Floppy Diagnostic includes a drive-cleaning kit and diagnostic software that tests your floppy drive's health. The drive-cleaning kit is a must for anyone who works in a dusty environment. MicroMat Computer Systems; \$59.95. **\$\$\$½**

4 DTP Reference Kit

Neophyte desktop designers can't ask

for more than the **DTP Reference Kit**, a bag containing five rulers, a screen-percentage table, keyboard command shortcuts for Aldus PageMaker and QuarkXPress, a guide to Zapf Dingbats, and printers' and proofreaders' marks. The Communications Shop; \$29.95.

5 Lockette

The **Lockette** is for the security-conscious. It lets you lock your computer to your desk, your car, or even your leg. It also enables you to lock your floppy drive. Z-Lock Manufacturing; \$19.95.

6 Mario Teaches Typing

Still a member of the two-fingered-typing school? It's time to learn touch typing. Unfortunately, this requires lots of dull practice — dull, that is, unless you use **Mario Teaches Typing**. The drills are still there, but at least you're distracted by animated Mario Brothers' characters, Nintendo-style graphics, and silly sounds and music. Good for adults and kids. MacPlay; \$49.95. **\$\$\$**

7 MouseArena

The **MouseArena** is the icing on the cake of your Mac office. This mousepad/wrist rest is the most sophisticated one we could find, even if it does look like a prop from "The Jetsons." Forminco; \$29.95. **\$\$\$½**

8 MouseMitt

Using a wrist rest is not always practical if you use a PowerBook, a trackball, or a graphics tablet. One solution is to use the **MouseMitt**, a wrist rest you wear. Like a colorful Ace bandage with a padded section that fits under your wrist, the MouseMitt looks a little strange, but it really does work (just remember to take it off when you socialize). MouseMitt International; \$9.95 to \$19.95.

9 PaperTemplates

If you don't have an artistic bone in your body but have to design things on your Mac, **PaperTemplates**, from PaperDirect, is the answer. With it, you can create brochures, mailers, business cards, and other business forms from within Microsoft Word, PageMaker, or QuarkXPress. Designed to be used with PaperDirect's wide selection of papers, PaperTemplates contains more than 130 designs. PaperDirect; \$39.95. **\$\$\$½**

10 PowerCD

Apple's **PowerCD** player costs more than our \$250 limit, but it's a good gift for anyone who has a small business. Use it to run standard CD-ROMs on a Mac or single-session or multisession Photo CD discs on a television, or hook it up to speakers and listen to standard audio CDs. Apple Computer; \$599.

11 PublicityBuilder

If you need to let the public know what you've got, **PublicityBuilder**, from Jian, lets you create a PR strategy on your Mac. It contains templates that let you write pitch letters, contracts, and press releases and plan objectives. The manual explains how to develop a PR message and deal with the media. Jian Tools for Sales; \$129. **\$\$\$**

12 Screenies

For visual stimulation, try framing your monitor with a **Screenie**, a cardboard frame that comes in one of 100 variations, from a Baroque-style gilt picture



Drive Tech Floppy Diagnostic



Mario Teaches Typing



PaperTemplates



frame to a politically correct rain-forest scene — there are even Screenies for kids. For the home office, try the cork-board or whiteboard models, onto which you can pin or scribble notes. In sizes to fit 9-inch or 13- to 15-inch monitors. Screenies; \$9.95 and \$11.95.

13 SIMM Remover

The **SIMM Remover** makes performing memory upgrades a little simpler by letting you easily lift out old SIMMs. It comes with easy-to-follow directions, but you have to provide your own grounding strap. Stratos; \$4.99.

14 Tabs and Indents

You need to know a few tricks in order

to turn out polished and professional-looking documents with your Mac. **Tabs and Indents**, by Robin Williams (author of the best-selling *The Mac Is Not a Typewriter*), gives you a grounding in how to format word-processing documents. The enclosed disk contains skill exercises and a couple of useful freeware programs. Peachpit Press; \$12. $\frac{1}{2}$

15 Take Five

Sitting in front of a computer all day can take its toll on your health — physical and mental. You can decompress a little with **Take Five**, a CD-ROM full of exercises, music, and psychic vacations designed to unkink your mind and body. The Voyager Company; \$49.95. $\frac{1}{2}$

16 3M Privacy Filter

Anyone whose family room doubles as an office will love the **3M Privacy Filter**, a polarizing filter that fits over the front of your display and makes it impossible to see what's on the screen unless you're directly in front of it. Several models are available, some of which also cut out glare and radiation. 3M Optical Systems; \$189.95 to \$329.95. $\frac{1}{2}$

17 Toner Tuner

Laser-printer owners who want to save money on toner cartridges will love

Toner Tuner, a utility that lets you control just how much ink your printer puts down on paper. If you're printing just draft versions of documents, printing them with less toner makes the cartridge you have last a lot longer — it's kinder to the environment too. Working Software; \$24.95. $\frac{1}{2}$

18 Total Health at the Computer: How to Be Pain Free

Did you know that you should blink every three to five seconds when you're staring at a computer display? You would if you'd read **Total Health at the Computer: How to Be Pain Free**, by Martin Sussman and Dr. Ernest Loewenstein, with Howard Sann. It's a practical guide to setting up your work space and using your computer in a way that minimizes health problems such as carpal-tunnel syndrome, repetitive-stress injuries, and eyestrain. Station Hill Press; \$13.95. $\frac{1}{2}$

19 Zounds

Change your auditory environment with **Zounds**, a control panel/sound package that lets you set groups of sounds (farm noises, a tropical setting) to play through your Mac's speaker at random intervals. Just beware: Some people love this program, but others find it annoying. Digital Eclipse Software; \$39.95. $\frac{1}{2}$



Take Five

The Traveling Mac

PowerBooks are both a status symbol and an indispensable aid for businesspeople on the go. Here are some suggestions to make your PowerBook even more powerful.

20 Digital Restaurant Guide

Need to know the closest place to eat in San Francisco? The best Thai food? Then check out **Digital Restaurant Guide**, a HyperCard stack containing information on just about every restaurant in the City by the Bay — nearly 3,000 entries. Digital Lantern plans to add other cities to the lineup soon. Digital Lantern; \$59.95; seasonal updates, \$18.95 each. **\$\$\$½**

21 Expanded Books

22 I Love travel guides

Voyager's line of **Expanded Books** keep getting better and better. New books on-disc include Randy Shilts' *Conduct Unbecoming* and Scott Turow's *Pleading Guilty* — perfect for reading on-line on your PowerBook. Macmillan New Media has jumped on the bandwagon, releasing its own Expanded Books: the **I Love** series of travel guides for Boston, New York, and Washington as well as other titles such as an on-disc version of Peter Gammons' book *Coming Apart at the Seams*. The Voyager Company and Macmillan New Media; \$19.95 to \$29.95. Voyager's Expanded Books **\$\$\$\$½**; Macmillan's I Love series **\$\$\$\$½**

23 Nada Chair Back-Up

The **Nada Chair Back-Up** is an innovative ergonomic back support. It acts as a

slings from your knees to your back, using reverse pressure from the knees to apply traction to the lower back. OK, so it looks a little funny, but it packs up smaller than a Duo and is surprisingly comfortable. Ergonomics; \$39.95.

24 On The Road

On The Road lets you queue all of your print jobs while you're traveling, just as you would if you were actually attached to a printer. Then, when your PowerBook is reconnected to a network, On The Road seeks out the printer of your choice and prints the lot. It also defers your faxes until you've attached your fax modem to a phone line. Palomar Software; \$99.99. **\$\$\$\$**

25 PB Tools

26 CPU 2.0

Every PowerBook user should have a set of PowerBook utilities to do such things as extend battery life and make cursors more easily visible on the LCD screen. One favorite is Inline Software's **PB Tools**, which stores information about your PowerBook's power consumption over time. Another option is Connectix's **CPU 2.0**, the granddaddy of PowerBook utilities. PBTools: Inline Software; \$99.55 **\$\$\$\$**. CPU 2.0: Connectix; \$99 **\$\$\$**

27 PowerBall

Getting sick of the granite-gray look of your PowerBook? Replace the trackball with a colorful **PowerBall**. The balls, colored orange, yellow, green, or pink, come in sizes to fit all PowerBooks, including the 100s and the Duos. APS Technologies; \$9.95; set of four, \$19.95.

28 The PowerBook Companion

29 PowerBook: The Digital Nomad's Guide

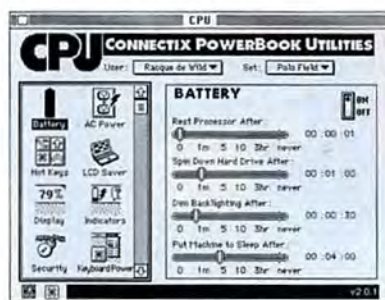
Using a PowerBook creates a whole set of concerns that don't arise when you're using a desktop Mac, so it's a good idea for first-time PowerBook owners — whether they're jaded Mac experts or not — to read up on their new machines.



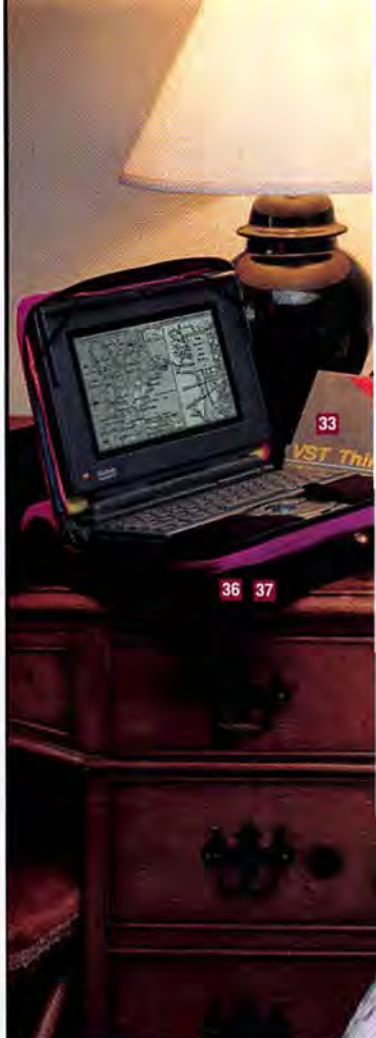
Digital Restaurant Guide



I Love Boston Guide



CPU 2.0





The **PowerBook Companion** gives you the skinny on maximizing your battery life and even shows you how to open up your PowerBook to install RAM or an internal modem. **PowerBook: The Digital Nomad's Guide** is an entertaining look at the needs of PowerBooks and the people who use them. Each book includes a disk of shareware PowerBook utilities. **PowerBook Companion**: Addison-Wesley Publishing; \$24.95 **||||**. **Digital Nomad's Guide**: Random House Electronic Publishing; \$24 **||||**

30 PowerPrint

The **PowerPrint** software/cable combination lets PowerBook users print their files to just about any PC-compatible

printer, including dot-matrix printers. GDT Softworks; \$149. **||||**

31 SCSI Doc!

Use the **SCSI Doc!** connector to attach your PowerBook to any regular Mac SCSI device or to attach your PowerBook to a desktop Mac as if it were a SCSI device itself. APS Technologies; \$49.

32 Teledapt Phone Kit

Just because your PowerBook can travel with you around the world doesn't mean your modem will be able to speak the language when you get to a foreign land. But the adapters in the **Teledapt Phone Kit** can convert any country's phone jack into a standard American plug. You can buy individual plugs, packages for regions (the photo above shows a European Community pack), or a catch-all package that covers pretty much every phone jack in the world. Teledapt; individual connector, \$22.50; region pack, \$149.99; world pack, \$899.99. **||||**

33 ThinPack

The 1.5-pound **ThinPack** battery is small enough not to be a burden but powerful enough to slake your PowerBook's thirst for energy for five to seven hours when you use it in combination with a PowerBook's internal battery. It's perfect for

people who are tired of swapping batteries in the middle of a long flight. VST Power Systems; \$179.95. **||||**

34 Wallpaper The Zebra Edition

35 Wallpaper Light & Dark

For users of black-and-white PowerBooks — and other Macs without color or gray-scale displays — comes **Wallpaper The Zebra Edition**, a new version of the popular desktop-pattern utility. Now you don't need to keep staring at that plain old gray grid on your desktop. And if you have a color PowerBook (or desktop machine), **Wallpaper Light & Dark** gives you even more patterns and lets you run After Dark modules. Thought I Could; \$59.99. The Zebra Edition **||||**; Light & Dark **||||**

36 WraP Notecover

37 WraP Saddlebag

If you want a case that fits your PowerBook like a glove, check out the **WraP Notecover**. It's made of neoprene — the same material wet suits are made of. Zippers on the back allow full access to the back panel, and an extra pocket gives you enough room to keep papers and spare disks. If you need even more carrying room, just sling the **WraP Saddlebag** over the Notecover. WraP Design; Notecover, \$69; Saddlebag, \$95.



Wallpaper Light & Dark

The Mac Goes to College

Macs are among the most popular computers on campus. Here are a few suggestions for making the Mac fit into any dorm room.

38 Achieving Your Career

Anyone looking for a new job or career, including college students preparing for life after graduation, will find loads of information and encouragement in **Achieving Your Career**. The software includes a list of big companies as well as helpful hints for job seeking. There's even a phone number you can call to get free advice from a real person. Up Software; \$69. $\$3\frac{1}{2}$

39 Baseball Mousepad

True baseball fans can show their allegiance to the home team with a **Baseball Mousepad** featuring the official logo of their favorite major-league team. MouseWares; \$13.99.

40 Bloopers

College wouldn't be college without a few pranks, right? With **Bloopers**, you can booby-trap any Mac in many ways.

Make *really* disgusting sounds emanate from the speakers. Make your roommate's word processor type messages by itself. Or make the victim's cursor drift off the screen, even though the mouse isn't moving. Binary Software; \$25. $\$3\frac{1}{2}$

41 The Deluxe American Heritage Dictionary

No self-respecting college student can write term papers without the firepower



of **The Deluxe American Heritage Dictionary**. In addition to defining 310,000 words (and finding them even if you don't have the spelling quite right), the dictionary has an option, called Word-Hunter, that lets you work in reverse if you know the definition but not the word. WordStar; \$129. **\$\$\$½**

42 Expert Astronomer

Astronomy students can go stargazing even on the sunniest day of the year with **Expert Astronomer**, a program that can show you the night sky at any position on the earth at just about any time — past, present, or future. Want to know more about a particular star, planet, or nebula? Just click on the object, and its vital statistics appear. Expert Software; \$49.95. **\$\$\$½**

43 G-VOX Pickup & Belt Pack

The **G-VOX Pickup & Belt Pack** turns your Mac into a guitar instructor and gives you instant feedback on your performance. The hardware is easy to set up and works with any acoustic or electric guitar. Instruction software (sold separately) provides digital samples of exercises created by pro guitar tutors, who demonstrate technique via animated fretboard diagrams, staves, and tablature. Additional optional software lets you use G-VOX with MIDI sequencers. Lyrrus; \$399; additional instructional software, \$16.95 to \$149. **\$\$\$½**

44 The Mac Internet Tour Guide

Most college students have access to the global Internet computer network. But whereas the majority of college Internet users are stuck typing commands into UNIX systems in order to access the network, **The Mac Internet Tour Guide** shows how Mac users can use Mac programs to connect with the Internet. Once you're connected, you can download the latest shareware and talk to far-off friends. Ventana Press; \$27.95. **\$\$\$**

45 NiteCap

Dropping a **NiteCap** over the top of your Mac shields it from even the dustiest dorm room. And because NiteCaps have cool patterns, like these fish (see photo), they live up the room while they're protecting your Mac. NiteCaps; \$18 to \$22, depending on size.

46 Now Fun!

Bored with your Mac's black-and-white menu bar, monotonous backdrops, and dull cursors? Try installing **Now Fun!**, a collection of diversions designed to give you complete control over your Mac desktop (and avoid studying). The utilities in Now Fun! enable you to place

pictures on your backdrop, animate your cursors, make sounds erupt from your Mac, and even colorize your menu bar. If you've ever wanted to hear your Mac snore loudly before it shuts down, this is your chance. Now Software; \$69. **\$\$\$**

47 SimLife

When it's time to take a break from studying for the biology final, why not try creating your own life-forms? With **SimLife**, you can create plants and animals and set them loose on a planet of your making. Watch them evolve, take over the planet, and go extinct. The worst part of the whole experience is that when you're done playing God, you've got to go back to the real world — the one where your biology professor has the power over life, death, and grades. Maxis; \$49.95. **\$\$\$½**

48 SoftWear

People who want to show they've been with their Macs through thick and thin can do so by wearing hats and shirts from the **SoftWear** collection. What could be better than a bomb icon on your head? Simple — a bomb icon and the phrase "Sorry, a system error occurred" on your boxers. These clothes will make you the talk of the campus. Iconz; hat, \$10; boxers, \$15; T-shirt, \$18; sweatshirt, \$35; mug, \$10.

49 Who Built America?

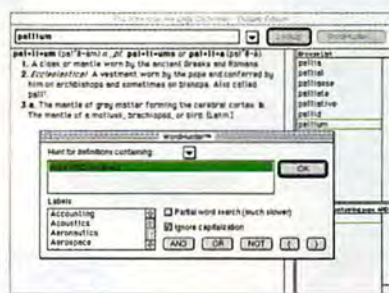
Every student of American history will probably be enthralled with **Who Built America?**, a multimedia CD-ROM featuring the complete text of a two-volume history book, hundreds of pictures, 45 minutes of QuickTime video, and loads of recorded voices and music. (There's even a copy of the world's first crossword puzzle!) The subject? America from 1876 to 1914, the period that saw the growth of the United States from a rural backwater into the beginnings of a world superpower. The Voyager Company; \$99.95. **\$\$\$**

50 Word Torture

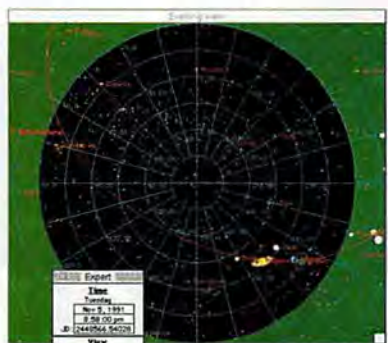
Learning a foreign language — especially building your vocabulary in that language — can be tough. Painful as it sounds, using **Word Torture** is a relatively easy way to learn words in whatever foreign language you're studying. And if you miss a word, Word Torture doesn't let you off easy — it repeats it again later, to see if you've learned your lesson. Hyperplot; \$49.95. **\$\$\$**

51 A Zillion Kajillion Rhymes

If you are a frustrated garage-band songwriter or a tender-hearted poet, check out **A Zillion Kajillion Rhymes**. Now if



The Deluxe American Heritage Dictionary



Expert Astronomer



SimLife



Who Built America?

you really need to figure out what rhymes with *banana* for your groundbreaking "Ode to Fruit," you can list all your options in no time: *bandanna*, *hosanna*, and *vox humana*, to name just a few. Eccentric Software; \$49.95. **\$\$\$½**



Mac Kids' Stuff

Here's a selection of entertaining *and* educational programs for kids. You might even be able to convince your little darlings that there's more to life than Nintendo.

52 Bailey's Book House

Preschoolers can explore reading with Bailey the cat in **Bailey's Book House**. Clicking on an object in Bailey's room takes children on a journey of reading, spelling, and other literacy skills. This colorful, musical program also provides options for parents to guide their children's learning. Edmark; \$49.95. **★★★★**

53 Computer Crayon

Small hands need a small mouse — or maybe a crayon that acts like a mouse. The **Computer Crayon** does just that, plus it's available in primary colors or as a dinosaur-green Jurassic Mouse. Ap-point; \$49. **★★★★**

54 Disney Screen Saver

After Dark, the venerable Mac screen saver from Berkeley Systems, now offers the **Disney Screen Saver**, a set of modules for kids — and for adults who have fond memories of Disney classics. They're all there — Mickey, Goofy, the Little Mermaid, even Beauty and the Beast. Berkeley Systems; \$49.95.

55 EasyBook

Who says desktop publishing is just for adults? **EasyBook** lets kids write and illustrate their own books. Besides creating their own drawings, they can "stamp" graphics that come with the program. After the pages print, fold them in half,

and you've got your young author's first book. Chickadee Software; \$59.95. **★★★★**

56 Kid Cuts

Kids aged 4 through 12 can make everything from paper dolls to rainy-day projects with **Kid Cuts** (it even includes safety scissors!). Kid Cuts lets you make hats, masks, puppets, and more by clicking on various tools. Print the projects, cut them out, and then decorate them. Brøderbund Software; \$29.95. **★★★★**

57 The Miracle Piano Teaching System

Remember when you were young and your mother made you practice the piano



for hours on end? Today's kids have **The Miracle Piano Teaching System**. This interactive teaching system uses a Mac, a piano keyboard, and software to teach piano fundamentals. Click on a room in the Conservatory, and choose the lesson you want to practice. The Software Toolworks; \$499.95. **★★★★**

58 My Own Stories

A great tool for creating storybooks — from design to content — is **My Own Stories**, from MECC. Youngsters aged 8 through 14 can write, illustrate, and publish stories by filling pages with objects, text, color, sound, people, places, and pets. A Spell button helps them proofread, and the Preferences dialog box lets them choose fonts and printing formats. MECC; \$49.95. **★★★**

59 New Math Blaster Plus!

Join Blasternaut and his robot friend Spot on a space journey in **New Math Blaster Plus!** Kids aged 6 through 12 learn basic math skills in four arcade-style games: Rocket Launcher, Number Recycler, Trash Zapper, and Math Blaster. Davidson & Associates; \$59.95. **★★★**

60 Sitting on the Farm

Sitting on the Farm is an interactive musical storybook on CD-ROM for kids aged 7 through 10. Players can choose to read, write, listen, or sing along in English or French. Buttons in each option let them find out about new words, listen to the song in voice or instrument-only versions, write stories, and more. Sanctuary Woods; \$59.95. **★★★½**

61 Stickybear's Early Learning Activities

Stickybear's Early Learning Activities provides six activities to help preschoolers learn basic skills such as recognizing letters, shapes, opposites, groups, and colors and counting. Parents choose a Structured or Free Play format: Structured asks them to identify objects; Free Play tells kids the answers. Available in either English or Spanish text and voice. Optimum Resource; \$59.95. **★★★**

62 The Velveteen Rabbit and Other Children's Classics

The Velveteen Rabbit and other quaint English children's stories can now be enjoyed on CD-ROM. **The Velveteen Rabbit and Other Children's Classics** is an interactive storybook for children aged 5 and up — complete with sound, music, and illustrations. A question option makes it a great reading-comprehension tool. Queue; \$49.95. **★★★½**

63 Wallobee Jack:

The Bingi Burra Stone

If your kids are tired of reading and writing and doing math problems, give them a treat with **Wallobee Jack: The Bingi Burra Stone**, an interactive cartoon on CD-ROM for kids aged 5 and up. Featuring sound, color, and fantastic animation, it's like watching a Saturday-morning cartoon, only better, because kids get to play along. Tune 1000; \$29.95. **★★★★**

64 Where in the USA is Carmen Sandiego?

The holiday season just wouldn't seem right without another addition to the Carmen Sandiego series. This year it's **Where in the USA is Carmen Sandiego?** (Deluxe Edition), aimed at kids aged 12 and above. Like the others in the series, *Where in the USA* has young detectives seeking Carmen and her band of evil cohorts, this time across the U.S. This version features music, beautiful four-color scenes of famous American sites, maps, and a new Chief. Broderbund Software; \$49.95. **★★★★**

65 Yearn 2 Learn Peanuts

With the help of the Peanuts gang in

Yearn 2 Learn Peanuts, kids aged 3 through 10 can learn everything from reading to counting. They can choose learning levels and read along with the narrator. They can also color pictures, solve geography puzzles, and count Woodstocks. The sound and music are great. Image Smith; \$64.95. **★★★★½**



Disney
Screen
Saver



Kid Cuts



Wallobee Jack:
The Bingi Burra Stone



Yearn 2 Learn Peanuts

Leisure-Time Mac

Here's a roundup of products for new users and Mac home hobbyists.

66 At Ease

Apple's customizable interface **At Ease** makes the Mac even easier to use than it already is. If you share your computer with others, think about getting this software. It'll save a lot of worry about important files or applications being deleted by other people. You select the applications and files you want accessible, and they appear on the At Ease desktop. Apple Computer; version 2.0, \$79. **★★★★**

67 BlackJack Trainer

Heading to Vegas? **BlackJack Trainer** will prepare you for the casino (or your weekly card game). You'll get the most out of this program if you already know the game; you can then use Trainer to drill you on strategies, including count values, surrender, splitting, and doubling. ConJelCo; \$75. **★★★**

68 Bliss Saver

Bliss Saver is a design-it-yourself screen saver that decorates your monitor with animated paintings. The color synthesizer lets you add colors, shapes, and textures with a keystroke. Even with all the paintings loaded, this program takes up only 4 megabytes of disk real estate. Imaja; \$49.95. **★★★★**

69 CD Caddy

Keeping CD-ROMs in a caddy is the best way to eliminate scratches and dust, which can slow your drive's read mechanism. So for the CD-ROM freak who has everything, consider picking up a **CD Caddy** 5-pack. CD Technology; \$24.95.



Loon Magic

70 CD-ROM Organizer

Anyone who has begun collecting CD-ROMs will appreciate the **CD-ROM Organizer**, which neatly stores 25 CD-ROMs. Organizers can be stacked as your collection grows. Alltop; \$15.95.

71 Daily Tripper

If you're a Deadhead, this is the program for you. **Daily Tripper** is a FileMaker Pro-based personal scheduler and organizer that's loaded with features, including hundreds of photos and QuickTime movies starring the Grateful Dead. It's slow and takes up a lot of disk space, but Deadheads won't care. BrainDance Development; \$69. **★★½**

72 LifeSaver

Preparing your household for medical emergencies is easier with **LifeSaver**, a CD-ROM containing a complete first-aid course. LifeSaver teaches you how to deal with everything from bee stings to poisoning, with a good dose of CPR on the side. Sony Electronic Publishing; \$99. **★★★★**

73 Loon Magic

Apparently, there are many lovers of that shy waterbird, the loon. **Loon Magic** is a perfect gift for anyone struck with this admittedly odd affection. This CD-ROM (which includes a special version for kids) contains facts (did you know the loon has red eyes so it can see fish better underwater?), stories, films, pictures, songs, and recorded loon cries. It's spectacular, if a little arcane. Wayzata Technology; \$59. **★★★★**



Mangia

74 MacPhotographer

You can brush up on your photography skills with **MacPhotographer**. Although it's no replacement for the real thing, the program does teach you what kind of film to use, the aperture setting, and the shutter speed for a variety of situations. After each lesson, you can review your "photos" in an album. Eastman Kodak; \$59.95. **★★★**

75 Mangia

In the past, there haven't been as many good recipe programs for the Mac as for the PC, but **Mangia** may change that. You can use Mangia to file your own recipes and then search for dishes by ingredient, nationality, or course. Mangia also helps you manage your pantry and shopping by automatically creating shopping lists you can print and take to the store. One drawback is that you can't import or scan in recipes. Upstill Software; \$49.93. **★★★★**

76 MovieSelect

If you've ever wandered through a video store unsure of what to take home, you need **MovieSelect**, a CD-ROM containing information on hundreds of movies. Search by actor, director, or theme, or let MovieSelect do the work for you: Just pick three of your favorite movies, and the program will generate a list of compatible suggestions. Paramount Interactive; \$59.95. **★★★★**

77 The New Family Bible

The New Family Bible is a fascinating historical reference on CD-ROM for anyone interested in reading the best-selling book of all time. The New Family Bible features the Old Testament, and forty stories — including the Creation, Noah and the Flood, and Daniel in the Lions' Den — are also told in slide-show format. An audio overview gives you the historical context. Time Warner Interactive Group; \$49.99. **★★★★**

78 Parents, Kids and Computers

If you'd like to be more involved in your



The New Family Bible



kids' computer use, pick up a copy of *Parents, Kids and Computers*. This book contains information on selecting the right equipment for your youngsters (it covers PCs as well as Macs) and instructions on how to make the best use of the myriad of kids' educational and entertainment products. Random House Electronic Publishing; \$20. **★★★★**

79 Performa Made Easy

Know someone new to the Mac? In the *Performa Made Easy* tape series, friendly voices walk new users through the process of learning how to use a Mac at their own pace — without the cost of hiring a local whiz kid to spend hours tutoring them. Personal Training Systems; \$59.95. **★★★**



UnderWare

80 Seize the Day

If you're going to be organized, you might as well make the process pleasant. *Seize the Day* is a personal scheduler and organizer that opens each day with an inspirational quote. To dress it up, you can choose Living Scenes artwork or add a plug-in module. Shadowcatcher, a collection of Edward Curtis photographs of Native Americans, is the only plug-in module now available, but more should be coming soon. *Seize the Day*; \$59.95.

81 The Smiley Dictionary

Spice up your on-line correspondence with *The Smiley Dictionary*. You can add expressions and personality to plain text with simple keystroke combinations, such as *-) (wink), :-t (pout), and :-)" (whistle). This book contains hundreds of examples, from basic smiley faces to more-complex smiley characters. Peachpit Press; \$6.95. **★★★★**

82 Sony SRSPC series

To take full advantage of your Mac's sound capabilities, you need external speakers. The *Sony SRSPC series* of personal-computer speakers are some of the best we've seen, and they're less expensive than most. If you have a CD-ROM drive, external speakers are a must. Sony Computer Peripherals; \$79.95 to \$199.95.

83 TelePort

84 CompuServe

85 America Online

Much of what's exciting in the computer world is happening on-line, so it's time to get connected. If you don't already have a modem, you should check out Global Village's *TelePort* series (the least expensive is the TelePort/Bronze II). Add an on-line service such as *CompuServe* or *America Online*, and you have access to mass quantities of information on topics such as cooking, gardening, investing, and computing. Kids can research school projects on-line and play interactive games with people across the world. Global Village Communication; \$109. *CompuServe*; \$8.95 per month for basic service; additional charges for extra services. *America Online*; \$9.95 per month plus connect charges.

86 UnderWare

UnderWare is a control panel that animates After Dark modules (and its own modules) on your desktop so you can watch flying toasters while you're working in your favorite application. *UnderWare* also offers its own After Dark-compatible screen saver, although it doesn't run special After Dark modules such as the Star Trek or Disney screen savers. Bit Jugglers; \$59.95.

The Mac Arcade

Got a game lover on your list? Here are the best games we could find in the current crop. Most of them are arcade-style games, but we've added a few puzzles and simulations to keep things interesting.

87 Axis: The GameChater

Getting demolished by Slicers on Spectre Supreme? Need more Diggers on Lemmings? Axis: The GameChater sifts through a game's memory allocations and fits the game with a patch. Getting ammo or adding extra Diggers is as easy as pressing a key combination. Axis works with most games, and Baseline plans to release modules to keep up with new ones. Baseline Publishing; \$59.95. **tttt**

88 Cogito

Cogito is the infamous Apple Puzzle DA on steroids. In it, you return a jumbled geometric figure to its original configuration. Things get complex as the levels get higher — controls get switched, and



the configuration gets difficult. New Age music adds a soothing touch. Inline Software; \$59.95. **★★★**

89 Crystal Crazy

Crystal Crazy is guaranteed to be addictive. The premise behind it is the same as that of its predecessor, **Crystal Quest**: pick up the crystals while avoiding strange creatures and obstacles. But now there are puzzles to put together, pictures to uncover and erase, clocks and statues to smash, and pool balls to put away. Casady & Greene; \$49.95.

90 Eight Ball Deluxe

Finally, a video pinball game that feels like a traditional pinball machine. **Eight Ball Deluxe** has the arcade sounds, realistic ball motion, and flipper finesse of the real thing — and the ability to tilt the machine. The only thing that's missing is the smoky arcade room. Amtex Software; \$49.95. **★★★★**

91 Heaven and Earth

If action-packed arcade-style games aren't your cup of tea, try **Heaven and Earth**. It comprises three parts: the Card Game, the Illusions Puzzle, and the Pendulum Toy. This game takes a while to master, which is part of its charm. Buena Vista Software; \$59.95. **★★★★**

92 Iron Helix

Iron Helix is an adventure game on CD-ROM in which Earth is caught in a cold war with aliens. Your mission is to avoid a universal war by stopping a spaceship that's gone awry armed with a deadly weapon. Without any weapons yourself, you must destroy the ship while avoiding the armed guardian probes. Spectrum HoloByte; \$99.95. **★★★★**

93 The Journeyman Project

In the world of **The Journeyman Project**, time travel and world peace have been achieved. But history has been disturbed, threatening the global tranquility. You are sent back in time to correct what's gone wrong. This game can be glacially slow at times, but the graphics are awesome. Presto Studios; \$99.95. **★★★★**

94 Lunicus

In **Lunicus**, earthlings find an alien device that displays footage of the Jurassic period. The device also doubles as a way for the aliens to monitor life on Earth. Onboard the Lunicus, you must prevent the aliens from attacking the motherland. If you don't like shoot-'em-ups, this CD-ROM adventure probably isn't for you, but it is one of the fastest games we've seen. Cyberflix; \$99.95. **★★★★**

95 MouseStick II

96 GamePad

If you're used to the feel of a Nintendo or Sega game pad or like handling a joystick, the **MouseStick II** or the **GamePad** is what you need. The MouseStick is best suited for flight or driving simulators; the GamePad is good for arcade-style games. These devices hook into the ADB port and have custom settings for various games (they're not compatible with all games). Advanced Gravis Computer Technology; MouseStick II, \$99.95 **★★★★**; GamePad, \$49.95 **★★★★**

97 Myst

In **Myst**, a CD-ROM game by the developer of **Manhole**, you find yourself on a secluded and mysterious island. You must use the library of **Myst** and its journals for guidance as you explore the island. This exquisite game has full animation with excellent graphics and is accompanied by an ominously atmospheric soundtrack. Brøderbund Software; \$59.95.

98 Pathways into Darkness

In **Pathways into Darkness**, an alien god, buried under the earth eons ago, is ready to wake and rule the universe. You must bury it farther into the earth, but you're hampered by creatures from the god's dreams that have come to life and roam the caverns through which you must weave to fulfill your mission. Although each level is different, we found this game a little repetitious at times. Bungie Software; \$69.99. **★★★★**

99 Spectre Supreme

Just like movies, computer games have sequels, and **Spectre Supreme** — one of the few games you can play with friends over a network — is one of the newest. Arm your tank with an awesome arsenal to destroy new as well as old enemies as you struggle to survive and capture flags in an electronic arena. In network mode, six players can participate in several variations of tag, capture the flag, and tic-tac-toe. We liked this better than **Spectre** — there's a real feeling of progression. Velocity Development; \$69.95.

100 Star Trek 25th Anniversary

If you've always wanted to run the *USS Enterprise*, now's your chance. With **Star Trek 25th Anniversary**, you become Captain James T. Kirk, exploring new worlds in the company of Spock, Scotty, and the rest of the crew. Although we played with a prerelease version, the game (now available) was slated to come complete with voice-recognition commands for use on AV Macs, so you'll be



Crystal Crazy



Eight Ball Deluxe



The Journeyman Project



Myst

able to say "Fire!" with the same melodramatics as Shatner himself. This program is optimized for 13-inch monitors, so the graphics are low-resolution and are slow on larger displays. MacPlay; \$59.95.

continues ►

Directory

Addison-Wesley Publishing
One Jacob Way
Reading, MA 01867
617-944-3700

Advanced Gravis Computer Technology
1790 Midway Lane
Bellingham, WA 98226
604-431-5020

Allsop
P.O. Box 23
Bellingham, WA 98227
800-426-4303
206-734-9090

America Online
8619 Westwood Center Drive
Vienna, VA 22182
800-227-6364
703-448-8700

Amtex Software
P.O. Box 572
Belleville, ON K8N 5B2
Canada
613-967-7900

Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, CA 95014
800-776-2333
408-996-1010

Appoint
4473 Willow Road
Suite 110
Pleasanton, CA 94566
800-448-1184
510-463-3003

APS Technologies
P.O. Box 4987
Kansas City, MO 64120
816-373-5800

Baseline Publishing
1760 Moriah Woods Blvd.
Suite 5
Memphis, TN 38117
800-926-9677
901-682-9676

Berkeley Systems
2095 Rose Street
Berkeley, CA 94709
510-540-5535

Beyond Words Publishing
13950 N.W. Pumpkin Ridge
Road
Hillsboro, OR 97123
503-647-5109

Binary Software
2210 Wilshire Blvd.
Suite 900
Santa Monica, CA 90403
310-451-9044

Bit Jugglers
785 Castro Street
Suite C
Mountain View, CA 94041
415-968-3908

BrainDance Development
70-U Woodland
San Rafael, CA 94901
800-224-7740
415-454-9876

Broderbund Software
500 Redwood Blvd.
P.O. Box 6121
Novato, CA 94948
415-342-4400

Buena Vista Software
500 S. Buena Vista Street
Burbank, CA 91521
800-688-1520
818-562-1732

Bungie Software
5455 S. Hyde Blvd.
Garden Level
Chicago, IL 60615
312-493-2849

Casady & Greene
22734 Portola Drive
Salinas, CA 93908
800-359-4920
408-484-9228

CD Technology
766 San Aleso Avenue
Sunnyvale, CA 94086
408-752-8500

Chickadee Software
HCR62, Box 449
Center Harbor, NH 03226
603-253-4600

The Communications Shop
247 N. Goodman Street
Rochester, NY 14607
800-733-1650
716-473-1650

CompuServe Information Service
5000 Arlington Centre Blvd.
Columbus, OH 43220
800-848-8199
614-457-8600

ConJelCo
132 Radcliff Drive
Pittsburgh, PA 15237
412-492-9210

Connectix
2655 Campus Drive
San Mateo, CA 94403
800-950-5880
415-571-5100

Cyberflix
7434 Trade Street
San Diego, CA 92121
800-843-9497
619-536-9999

Davidson & Associates
P.O. Box 2961
Torrance, CA 90509
310-793-0600

Digital Eclipse Software
5515 Doyle Street
Suite 1
Emeryville, CA 94608
510-547-6101

Digital Lantern
P.O. Box 391438
Mountain View, CA 94039
415-337-6410

Eastman Kodak
343 State Street
Rochester, NY 14650
800-242-2424
716-724-4000

Eccentric Software
P.O. Box 2777
Seattle, WA 98111
206-628-2687

Edmark Corp.
6727 185th Avenue N.E.
Redmond, WA 98073
800-426-0856
206-556-8400

Ergonomics, Inc.
P.O. Box 964
Southampton, PA 18966
215-357-5124

Expert Software
800 Douglas Road
North Tower, Suite 355
Coral Gables, FL 33134
800-759-2562
305-567-9990

Forminco
9610A Ignace
Brossard, PQ J4Y 2R4
Canada
800-663-6764
514-444-9488

GDT Softworks
P.O. Box 1865
Point Roberts, WA 98281
604-291-9121

Global Village Communication
685 E. Middlefield Road
Building B
Mountain View, CA 94043
800-736-4821
415-390-8200

Hyperglot
P.O. Box 10746
Knoxville, TN 37939
800-726-5087
615-558-8270

Iconz
5221 Central Avenue
Suite 200
Richmond, CA 94804
800-889-4266
510-524-9200

Image Smith
1313 Sepulveda Blvd.
Torrance, CA 90501
310-325-1429

Imaja
P.O. Box 6386
Albany, CA 94706
510-526-4621

Inline Software
308 Main Street
Lakeville, CT 06039
800-453-7671
203-435-4995

Jian Tools for Sales
127 Second Street
Los Altos, CA 94022
800-346-5426
415-941-9191

Lyrrus
35 N. 3rd Street
Philadelphia, PA 19106
215-922-0880

Macmillan New Media
124 Mount Auburn Street
Cambridge, MA 02138
800-342-1338
617-661-2955

MacPlay
17922 Fitch Avenue
Irvine, CA 92714
800-969-4263
714-553-6678

WARNING! LA CIE'S TSUNAMI STORAGE SALE APPROACHING



Biggest wave of savings yet.

For limited time, you can get La Cie's top-of-the-line Tsunami™ hard drives at very special prices. It's the best deal we've offered yet, but it's more than a great price. It's your chance to own a drive from one of the most respected drive makers afloat.

An ocean of awards.

La Cie has won more Macworld, MacUser and MacWeek awards and praise than any other drive company. The ONLY one ever to win Macworld's World Class Awards in every drive category in a single year. The best quality, best engineering and best service and support from the biggest company.

Quantum direct from Quantum.

La Cie is the only supplier that engineers the drive mechanism and delivers the storage solution directly to you. When you call La Cie, you get the service, support and security of a Fortune 500 company.

Everything you need for survival.

Every drive comes ready (plug and play) with our award-winning standard Silverlining™ hard disk management software, complete graphic manuals, ecologically aware packaging and our switchable active termination. With toll-free technical support and a No Risk 30-Day Money Back Guarantee, this is the biggest splash in storage yet. Call now!

LAND THESE

COMPARE!



Theirs

Weight: 3.7-5.8lbs.
Dimensions: 9.5 x 10.5 x 2.5



Ours

Weight: 2.9 lbs.
Dimensions: 8.8 x 2.5 x 6.1



**Sale
Prices!**

~~\$329~~

170MB Tsunami

\$279

MACWORLD
MW
EDITORS'
CHOICE

MACWORLD
1
Small Drive Award

Why should you buy one of those big old boring, boxy drives, when you can have a sleek and portable drive from La Cie, a Quantum company. The Tsunami™ drive is the only Macintosh storage product to win an Industrial Design award. Its quality construction is made to last. Its small footprint and portable design requires very little of your precious desktop space and makes it easy to transport data from one location to another. Our switchable active termination eliminates the need for a termination block and allows you to easily terminate your drive with the flip of a switch. Every Tsunami comes with our award-winning standard Silverlining hard disk management software. And Tsunami runs so quiet, you'll be able to hear yourself think! Come aboard one of our Tsunami speed boats. Now's the time, because the price is right! Call us.

Life Preservers Available. Warranty Deals!

La Cie is offering a FIVE YEAR warranty on 525MB Quantum drives or larger and a TWO YEAR warranty on Quantum drives under 525MB. We also have an optional 5-year warranty available for drives under 525MB.

Quantum 3.5" Drives

Size	Internal NOW!	Tsunami	Tsunami Sale Prices!
170MB Hot!	\$199	\$329	\$279
240MB	\$299	\$439	\$389
525MB	\$699	\$779	\$729
700MB	\$899	\$979	\$929
1200MB	\$1149	\$1229	\$1179
1800MB NEW!	Call!	Call!	Call!

The La Cie Advantage

- FREE Silverlining™ Disk Management Software
- Unlimited TOLL-FREE Technical Support
- FREE Switchable Active Termination
- 30 Day Money Back Guarantee



Bobker's Dozen ID Awards

- All Drives Burned In and Tested
- Ready to Plug and Play
- Double Shielded SCSI Cables
- FCC, UL, TUV, VDE & CSA Approved

800-9999-

DEALS NOW!

CALL NOW FOR LATEST PRICES!



La Cie's Famous PocketDrive

Quantum 2.5" Drives

Size	PowerBook Internal	PocketDrive
40MB		\$269
80MB	\$199	\$299
160MB HOT!	\$299	\$399
213MB	\$499	\$599

PocketDrives, less than 10 oz. 213MB mechanism made by Toshiba.

105MB SyQuest Drives

Size	Internal	External
105MB	\$639	\$639
105MB Cartridge		\$79

SyQuest Drives

Size	Internal	External
44MB	\$379	\$379
88C MB	\$549	\$549
44MB Cartridge		\$69
88MB Cartridge		\$99

128MB Optical \$949

It's hard to beat the safety record of optical drives. La Cie's Optical Drive uses cartridges the same size as 3.5" floppies, but store almost 160 times more. They deliver speed and reliability at a price that's hard to beat. And that's not all; each drive includes award-winning Silverlining (\$149 free value, Bobker's Dozen) and one free cartridge (\$45 value).

128MB Optical Drives

Size	Internal	External
128MB	\$949	\$949
128MB Cartridge		\$45

DAT & Tape Drives

Size	Internal	External
1.3GB DAT	\$999	\$999
5.0GB DAT	\$1299	\$1299
Turbo DAT	Call!	Call!
150MB Tape		\$449
600MB Tape	\$649	\$649



Silverscanner II

Silverscan II makes scanning as quick, painless and productive as possible. With features like dynamic color preview (16 sec.), magnify in preview, proof in preview, savable scan setting, up to 400% scaling in 1% steps and up to 1600 dpi in 1 dpi steps—all in one pass. It's easy for the beginner and powerful for the advanced user. And it's Macworld's Editor's Choice.

Silverscanner II

All Silverscanners come with our powerful Silverscan software and Read-It O.C.R. Pro.

With Color It!	\$1599
With Color It! & Cachet	\$1899
With Cachet & ColorStudio	\$1999
Optional Transparency Attachment	\$999
Optional Sheet Feeder Attachment	\$699

Quantum, Direct From Quantum

LACIE
LIMITED
A QUANTUM COMPANY

Mon.-Fri. 5 a.m.-7 p.m. & Sat. 8 a.m.-noon PST
International 503-520-9000 Fax 503-520-9100 (24 hrs.) UK 0800-89-3025 Australia 0014-800-123-007
VISA & MasterCard accepted with no surcharge. C.O.D. and approved purchase orders also accepted.*

1219

*Call for details on terms, conditions, limited money back guarantee, warranty and free offers. Comparisons may not apply to all vendor products, check specifications. System 7.0.1 software included only with certain configurations. ZFP+ Drives do not have switchable termination. Prices do not include shipping and only apply to products shipped within the continental United States. Please contact La Cie for international distribution. Add sales tax where applicable. ZFP, ZFP+, Turanti, PocketDrive, PocketDock, Silverscanner, Silverscan, Silverlining, La Cie and the La Cie logo are trademarks of La Cie, Ltd., a Quantum Company. FORTUNE 500 is a registered trademark of the Time Inc. Magazine Company. All other trademarks are the property of their respective companies. All prices, specifications, terms, warranties, descriptions, products and services herein are subject to change without notice or recourse. © Copyright 1993 La Cie, Ltd. 8700 SW Creekside Place, Beaverton, OR 97005. Phone: (503) 520-9000. Fax: (503) 520-9100. All rights reserved. Printed in U.S.A.

EASY TO PORT.



40MB PocketDrive

\$269

"Lightweight, portable, well-designed,
these external drives are a great option."

Macworld, February 1993

Smooth sailing with PocketDrive.

With La Cie's PocketDrive, you can enjoy the convenience of our exclusive T-connector or PocketDock, the desktop accessories that make connecting and disconnecting your PocketDrive a breeze. La Cie's PocketDrive comes with our unique T-connector which allows you to snap it to almost any Mac. Our optional PocketDock gives you quick, instant desktop connectivity. Our "T" and "dock" have built-in active on/off SCSI termination, SCSI ID and a pass through SCSI connector, so you can leave them in your SCSI chain, even when your PocketDrive is on the go. At just under 10 ounces, and storage up to 213MB, you can cruise anywhere with your files in the palm of your hand.



Quantum 2.5" Drives

Size	PowerBook Internal	PocketDrive
40MB		\$269
80MB	\$199	\$299
160MB	\$299	\$399
213MB	\$499	\$599

PocketDrives, less than 10 oz. 213MB mechanism made by Toshiba.

Easy to port: OURS

- Can be used with any Macintosh.
- Built-in switchable active termination.
- Easy to move drive without disturbing SCSI chain.
- Smallest drive chassis.
- U.S. and world-wide universal AC adapters available.
- Award-winning industrial design.
- Silverlining hard disk management software with auto drive spin-down.
- Macworld "Editor's Choice" and World Class Awards.

Hard to port: THEIRS

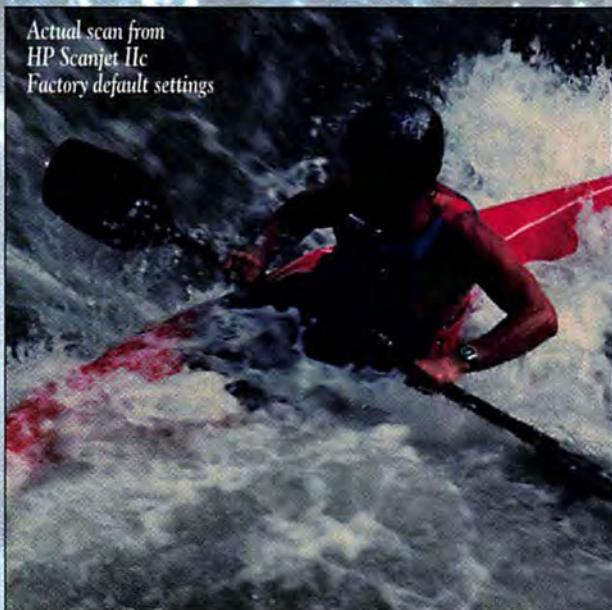
- Internal termination does not meet SCSI specifications.
- Moving drives requires reconfiguration of the SCSI chain, some models must be last in SCSI chain.
- AC adapters not readily available.
- Generic design.
- Does not have Silverlining features and benefits.
- No awards.

800-9999-

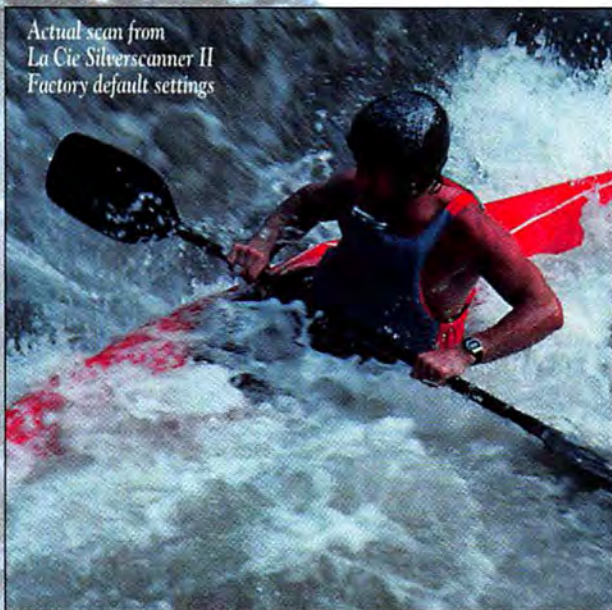
SWIM IN COLOR.

**CALL
NOW FOR
LATEST PRICES!**

Actual scan from
HP Scanjet IIc
Factory default settings



Actual scan from
La Cie Silverscanner II
Factory default settings



Deep blue see.

Silverscanner II is many lightwaves ahead—with gorgeous color, gray scale and line art right out of the box. Independent color controls (RGB) on the gamma/contrast/brightness help you get rich, clean scans with excellent detail and tonal range in highlights and shadows. And with new advanced features like a densitometer, white and black limit, color histogram and auto image adjustment, Silverscanner II is unsurpassed. Navigation is easy, and precise for demanding mariners.

Silverscanner II

\$1599

"...(Silverscanner) can deliver color performance that surpasses anything else in the less-than-\$2,000 price range, including the popular ScanJet IIc from Hewlett-Packard Co."

MacWeek, May 1993

"...Fast and a pleasure to use. ...Produced high-quality printed images with good resolution, and its documentation was tops."

Macworld, November 1993



Silverscanner II

All Silverscanners come with our powerful Silverscan software and Read-It O.C.R. Pro.

With Color It!	\$1599
With Color It! & Cachet	\$1899
With Cachet & ColorStudio	\$1999
Optional Transparency Attachment	\$999
Optional Sheet Feeder Attachment	\$699

Quantum, Direct From Quantum

LACIE
LIMITED
A QUANTUM COMPANY

Mon.-Fri. 5 a.m.-7 p.m. & Sat. 8 a.m.-noon PST

International 503-520-9000 Fax 503-520-9100 (24 hrs.) UK 0800-89-3025 Australia 0014-800-123-007

VISA & MasterCard accepted with no surcharge. C.O.D. and approved purchase orders also accepted*

CIRCLE 47 ON READER SERVICE CARD.

1219

*Call for details on terms, conditions, limited money back guarantee, warranty and free offers. Comparisons may not apply to all vendor products, check specifications. System 7.0.1 software included only with certain configurations. ZFP+ Drives do not have switchable termination. Prices do not include shipping and only apply to products shipped within the continental United States. Please contact La Cie for international distribution. Add sales tax where applicable. ZFP, ZFP+, Tsunami, PocketDrive, PocketDock, Silverscanner, Silverscan, Silverlining, La Cie and the La Cie logo are trademarks of La Cie, Ltd., a Quantum Company. FORTUNE 500 is a registered trademark of the Time Inc. Magazine Company. All other trademarks are the property of their respective companies. All prices, specifications, terms, warranties, descriptions, products and services herein are subject to change without notice or recourse. © Copyright 1993 La Cie, Ltd. 8700 SW Creekside Place, Beaverton, OR 97005. Phone: (503) 520-9000. Fax: (503) 520-9100. All rights reserved. Printed in U.S.A.

Directory, continued

Maxis

2 Theatre Square
Suite 230
Orinda, CA 94563
800-336-2947
510-254-9700

MECC

6160 Summit Drive N.
Minneapolis, MN 55430
800-685-6322
612-569-1500

MicroMat Computer Systems

7075 Redwood Blvd.
Novato, CA 94945
415-898-6227

MouseMitt International

75 Green Valley Road
Scotts Valley, CA 95066
408-335-9599

MouseWares

24557 Copper Cliff
Lake Forest, CA 92630
714-586-6221

NiteCaps

202 Clipper Street
Suite 4
San Francisco, CA 94114
415-647-6446

Now Software

921 S.W. Washington
Suite 500
Portland, OR 97205
800-237-3611
503-274-2800

Optimum Resource

5 Hiltch Lane
Hilton Head Island, SC 29926
803-689-8000

Palomar Software

2964 Oceanside Blvd.
Suite D
Oceanside, CA 92054
619-721-7000

PaperDirect

205 Chubb Avenue
Lyndhurst, NJ 07071
800-272-7377
201-507-1996

Paramount Interactive

700 Hansen Way
Palo Alto, CA 94304
415-812-8200

Peachpit Press

2414 Sixth Street
Berkeley, CA 94710
800-283-9444
510-548-4393

Personal Training Systems

828 S. Bascom Avenue
Suite 100
San Jose, CA 95128
800-832-2499
408-286-1635

Presto Studios

P.O. Box 262535
San Diego, CA 92196
619-689-4895

Queue

338 Commerce Drive
Fairfield, CT 06430
203-335-0906

Random House Electronic Publishing

400 Hahn Road
Westminster, MD 21157
800-733-3000
410-848-1900

Sanctuary Woods Corp.

1875 S. Grant Street
San Mateo, CA 94402
415-578-6340

Screenies

18971 Sonoma Highway
Sonoma, CA 95476
800-959-6190
707-939-6060

Seize the Day

P.O. Box 853
Calistoga, CA 94515
707-942-9391

The Software Toolworks

60 Leveroni Court
Novato, CA 94949
415-883-3000

Sony Computer Peripherals

3300 Zanker Road
San Jose, CA 95134
800-352-7669
408-432-0190

Sony Electronic Publishing

2100 Colorado Avenue
3rd Floor
Santa Monica, CA 90404
310-449-2392

Spectrum HoloByte

2490 Mariner Square Loop
Alameda, CA 94501
800-695-4263
510-522-3584

Station Hill Press

Station Hill Road
Tarrytown, NY 12507
914-758-5840

Stratos

2025 First Avenue
Market Place Tower PH-B
Seattle, WA 98121
206-448-1388

Teledapt

51 E. Campbell Avenue
Suite 110G
Campbell, CA 95008
408-370-5105

Thought I Could

107 University Place
Suite 4D
New York, NY 10003
212-673-9724

3M Optical Systems

3M Center
Building 225-4N-14
St. Paul, MN 55144
800-553-9215
612-733-4403

Time Warner Interactive Group

2210 W. Olive Avenue
Burbank, CA 91506
800-593-6334
818-955-9999

Tune 1000

295 Forest Avenue
Suite 1000A
Portland, ME 04101
800-363-8863
418-877-8900

Up Software

722 Lombard Street, #204
San Francisco, CA 94133
415-921-4691

Upstill Software

1442A Walnut Street
Berkeley, CA 94709
800-568-3696
510-486-0761

Velocity Development

4 Embarcadero
Suite 3100
San Francisco, CA 94123
415-776-8000

Ventana Press

P.O. Box 2468
Chapel Hill, NC 27515
919-942-0220

The Voyager Company

1 Bridge Street
Irvington, NY 10533
800-446-2001
914-591-5500

VST Power Systems

Taranto Office Building
1620 Sudbury Road
Suite 3
Concord, MA 01742
508-287-4600

Wayzata Technology

P.O. Box 807
Grand Rapids, MN 55744
218-326-0597

WordStar

P.O. Box 6113
Novato, CA 94948
800-227-5609
415-382-8000

Working Software

P.O. Box 1844
Santa Cruz, CA 95061
408-423-5696

WraP Design

19672 Stevens Creek Blvd.
Suite 400
Cupertino, CA 95014
800-883-9727
408-253-5378

Z-Lock Manufacturing

P.O. Box 949
Redondo Beach, CA 90277
310-372-4842

There are over 75 great software products on this CD.



And you can try them all, free.

Immediate access to popular software.

Shopping for software has never been easier. With your Software Dispatch CD-ROM disc, you have demonstrations, trial versions, and information for a wide variety of products at your fingertips. So you can sample them anytime. Then, when you're ready to order, a simple phone call unlocks the complete program, including electronic manuals—right from the CD. And to get you started, we'll even give you a free program with your first order.

With Software Dispatch, there's no more waiting for delivery. More than 75 products are already on your free CD, and when you call to order, you'll receive the "keys" to access your selections—instantly.

Try them when you want. Buy them when you're ready.

From powerful applications to handy utilities, innovative games, and more, the Software Dispatch CD brings an entire software store to your desk. And complete demos and information mean you can buy with confidence as you enjoy unmatched convenience. So send for your free Software Dispatch CD today. And see how easy software shopping can be.

Yes. Send me my free Macintosh CD.

☐ I own a CD-ROM drive.

☐ I do not own a CD-ROM drive, but I plan to purchase one soon.

Name _____

Company Name (if applicable) _____

Address _____

Apt/Suite # _____

City _____

State _____

ZIP _____

Telephone () _____

Fax () _____

GG2



Please allow 4-6 weeks for delivery.

Mail to:
Software Dispatch
PO Box 876
Brea, CA 92622-9903



Vol. 3, Issue No. 7

Orchard News



Apple Trees Bear Fruit For 50 Years

is done by spraying chemicals that damage about half of the trees blossoms. A chemical that is already registered by the Environmental Protection Agency for use on other crops

Apple trees will bear fruit after approximately four years and will continue to do so for about fifty years. Apples are now grown twelve months out of the year in temperate latitudes of all continents. Until the early 1900's apples were not in season during the summer months. A breakthrough in the 1940's at Cornell University Agricultural College with controlled atmosphere storage extended the growing season year-round.



can likely be a safe and effective spray. Several of the tested products have been found to effectively damage apple flowers so that they cannot be pollinated. This can be done



without harming bees, which are responsible for the pollination.

Continued pg. 6

Focus On Color



Color is the key to picking fruit at its peak. Bright reds, yellows, greens, or oranges tell you that harvest time has arrived.

\$60 Film & Separation cost — The Microtek 45t scanner*

Vol. 3, Issue No. 7

Orchard News



Apple Trees Bear Fruit For 50 Years

is done by spraying chemicals that damage about half of the trees blossoms. A chemical that is already registered by the Environmental Protection Agency for use on other crops

Apple trees will bear fruit after approximately four years and will continue to do so for about fifty years. Apples are now grown twelve months out of the year in temperate latitudes of all continents. Until the early 1900's apples were not in season during the summer months. A breakthrough in the 1940's at Cornell University Agricultural College with controlled atmosphere storage extended the growing season year-round.



can likely be a safe and effective spray. Several of the tested products have been found to effectively damage apple flowers so that they cannot be pollinated. This can be done



without harming bees, which are responsible for the pollination.

Continued pg. 6

Focus On Color



Color is the key to picking fruit at its peak. Bright reds, yellows, greens, or oranges tell you that harvest time has arrived.

\$1,105 Film & Separation cost — outside pre-press house**

Apples vs. Apples

Until now, your high-quality color scans for publication and four-color printing were usually done on expensive drum scanners. Owning and maintaining this type of equipment was not an affordable option.

But now there's the ScanMaker® 45t Multi-format Film Scanner from Microtek, so you can branch out and do your own high-quality scanning and save money in the process.

The ScanMaker 45t produces high-quality scans and separations from 35mm, 2 1/4 or 4 x 5 transparencies. The 45t features 36-bit color with interpolated resolution as high as 10,000 x 10,000 pixels and 2,000 dpi. Microtek's Dynamic Color Rendition technology produces from original 36-bit image data an optimized 24-bit file for use with today's 24-bit imaging software. The result—precise digital color. Also included with the 45t is Kodak's EKTACHROME Film Production Guide Q-60A for use with Microtek's Custom



Calibration Utility that builds a calibration profile for your specific scanner. Now add 12-bit grayscale scaling from 1% to 100% and a maximum 5" x 5" scanning area and you have a scanner that rivals even the most expensive scanning equipment.

But there's more than cost-savings. Consider the time saved in producing high-quality scans at your own desktop. You now have complete control and can even manipulate the image with Adobe Photoshop 2.5 (included with your purchase of the ScanMaker 45t) without incurring expensive system time at your separators.

Priced thousands less than its nearest competitors, the ScanMaker 45t will soon pay for itself — who knows, maybe on your first multiple-image project.

For more information, or the name of your nearest authorized Microtek dealer, call **1-800-654-4160**.

MICROTEK
Better Images Through Innovation.

©1993 Microtek Lab, Inc. 680 Knox Street, Torrance, CA 90502. Microtek is a registered trademark of Microtek Lab, Inc. All other trademarks whether registered or not are the property of their respective holders. *Images were scanned with Microtek's ScanModule for Adobe Photoshop. Separations were done in Cachet by EFI. Film cost of \$60 based on 4 pieces of 35mm film from service bureau, no match print included.

CIRCLE 159 ON READER SERVICE CARD.



DESKTOP PUBLISHING

The undead: Just when you thought it was good and buried, PixelPaint Pro3 is given new life by its original developer, Pixel Resources, after years with SuperMac Technology. Re-written from the ground up, PixelPaint Pro3 may give products such as Fractal Design's Painter a run for their money and at a **larcenous price** of \$379. Pixel•Layers lets you keep multiple floating selections active simultaneously. You can manipulate and mask layers independently and then save them with a file until you paste them permanently. The program includes an arsenal of special lighting and glass effects; a library of paper and surface textures; and a mess of pressure-sensitive brushes, including an Impressionist brush (just once, I'd like to see a Suprematist brush). Oh, yeah: The program supports Photoshop plug-ins and pressure-sensitive tablets, and it does color correction too. 404-449-4947.

Under pressure: Getting the most out of your image-editing and paint software these days requires a pressure-sensitive graphics tablet. In the past, many artists balked at the **thick tablets and heavy styli**. Thankfully, that's changed with the new generation of tablets, such as CalComp's



DrawingSlate and Wacom's UD-1212. ♦ If you want a tablet of extremes, check out CalComp's DrawingSlate family. Available in three sizes, from 6 x 9 inches to 12 x 18 inches, the tablets, which look like a rigid mouse pad, are ultrathin (1/8 inch) and superlight (less than a pound for the

6-x-9-inch model) at a slim price (starting at \$395). The 16-gram two-button pen detects tilt and 256 increments of pressure. 602-948-6540. ♦ What's

neat about the Wacom UD-1212 is that it allows you to use a stylus and a four-button mouse (or puck) simultaneously, giving you great flexibility and control. Its physical specifications are impressive too. Although the 12-inch-square tablet is 1.3 inches thick, the batteryless UltraPen tips the scales at a mere 8 grams.

800-922-6613 or 206-7500-8882. \$695.

Type drawer: With almost 100 years under its belt, Monotype has one of the most **extensive and beautiful** font collections in the world, including Gill Sans, Perpetua, and Ellington. Now you can get them all — 600 fonts — on an unlocked CD-ROM for \$1,999. Sets of 84 and 205 fonts are available on floppy disks for \$499 and \$999, respectively. 800-666-6897 or 312-855-1440.

Get it: Aldus Fetch was pretty good, but now it's even better. Version 1.2 can handle as many as 100,000 images per catalog and provides direct support for 38 file types, including Targa and GIF files, through the included Apple EasyOpen filters. With its ability to show thumbnails of text-document files, Fetch moves **beyond the niche** of image-database programs. It can retrieve and preview anything, including Word, PageMaker, and QuarkXPress documents. This update is far more robust than its numerical extension suggests. Best of all, the update's free; list price, \$295. 206-628-2320. Ⓜ



By Pamela Pfiffner

PrecisionColor™ Pro from Radius is the fastest 24-bit color graphics card available. Not in one category, not in just a few functions, but in overall performance.

So instead of sitting, waiting for your Mac to catch up to your mind, you can scream ahead with all the speed and elegance your Mac can deliver.

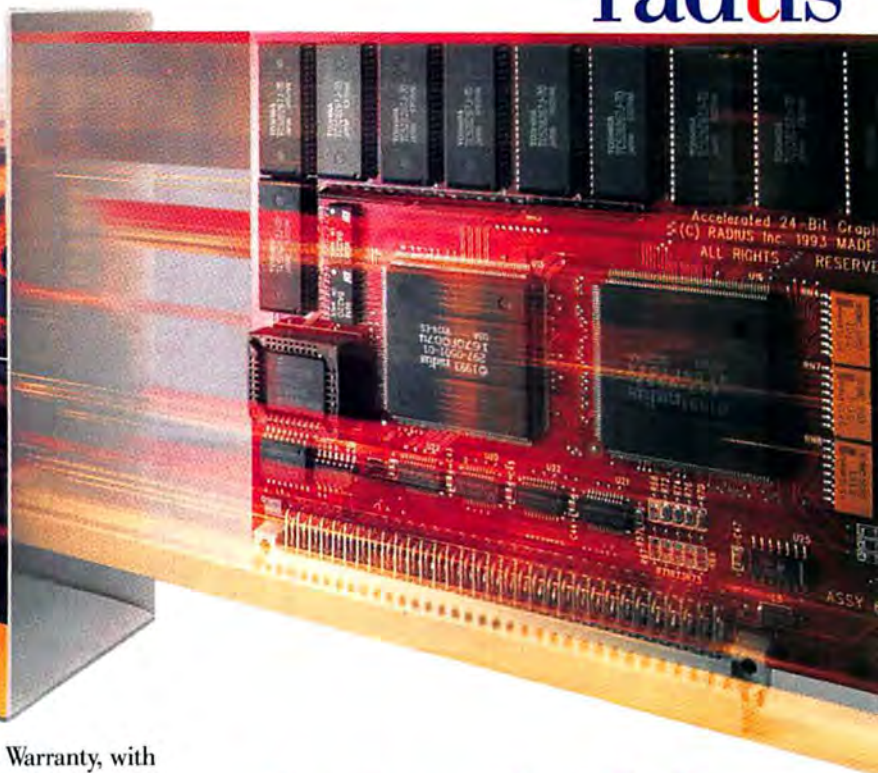
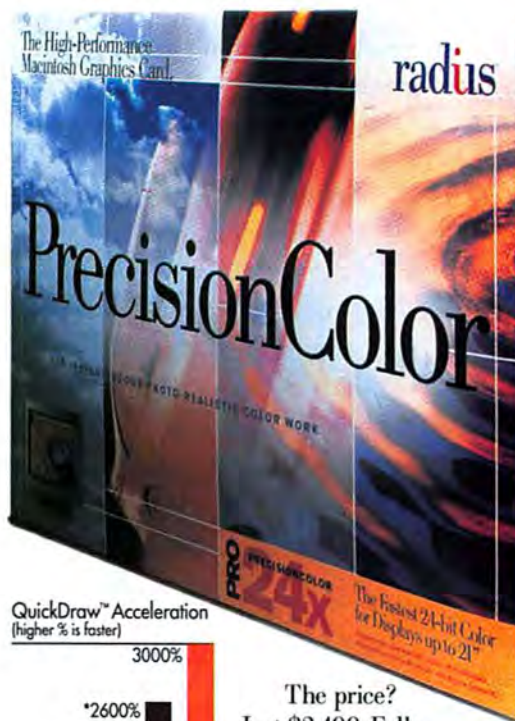
PrecisionColor Pro is up to 26% faster overall than the self-proclaimed "fastest" graphics card—Thunder™ II. Up to 67% faster overall than Thunder/24™ And as much as 3000% faster than your unaccelerated Mac.*

In addition to unmatched speed, PrecisionColor Pro gives you unrivaled flexibility. You get "on-the-fly" resolution switching. And you can quickly change between one-page and two-page views without rebooting.

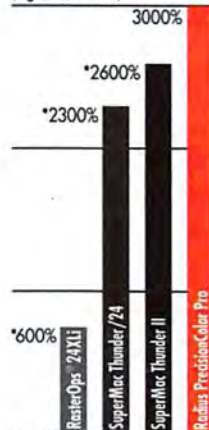
This new card is the only high-performance graphics card that fits in all Macintosh NuBus™ systems. And it's fully compatible with a wide range of monitors, including our new IntelliColor™/20 display.

Scream With Your Mac Instead Of At It.

PRECISIONCOLOR PRO
radius



QuickDraw™ Acceleration
(higher % is faster)



*Performance percentages from publications by RasterOps Corp. and SuperMac Technology, Inc.

The price?

Just \$2,499. Fully backed by our Worry-Free Warranty, with overnight replacement. So now you can really scream through your color publishing work, because with PrecisionColor Pro your creativity doesn't have to wait.

And to really accelerate Photoshop™, there's our new PhotoBooster™ with the most advanced twin DSPs, to help you run your production functions up to 10 times faster than a Quadra™ 950, for only \$999.

For complete details and the name of your nearest Radius reseller, call 1-800-227-2795 Ext 101B. Or call us now

at 1-800-966-7360 to receive faxed information.

Get the PrecisionColor Pro and PhotoBooster combo. And start screaming with your Mac.

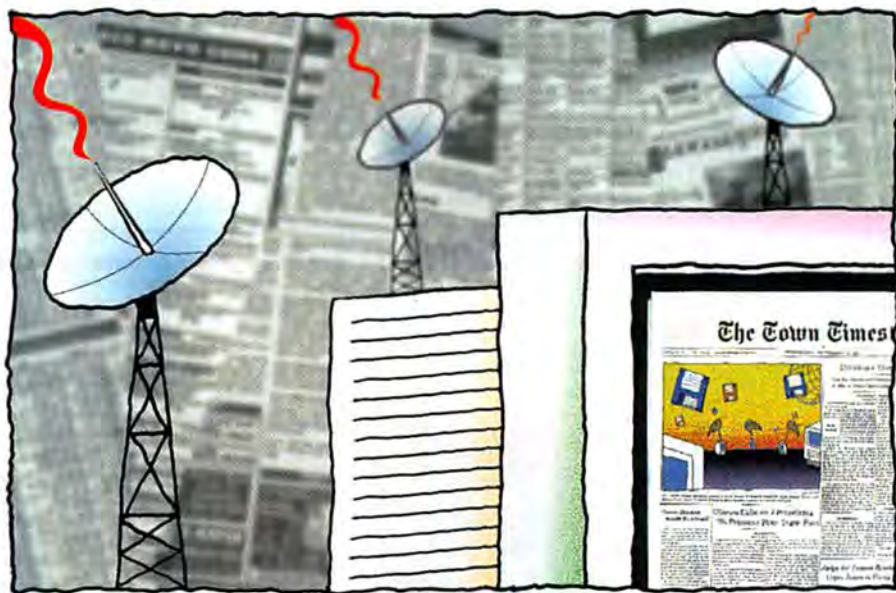
*Scream In Color
and Save \$200
On IntelliColor
Display/20*

*Call 1-800-966-7369
For Faxed Information
(For a limited time only)*

©1993 Radius Inc. Radius, the Radius logo and all Radius product names are trademarks of Radius Inc. Other brand and product names are trademarks of their respective holders. *Based on QuickDraw acceleration tests using Hydra Benchmark v2.1.

CIRCLE 68 ON READER SERVICE CARD.

Digital Free Press



Publishing without paper makes sense both economically and environmentally. Here are four shareware products that can make publishing electronic documents a snap.

By Gregory Wasson

Got an idea for a hot new 'zine but your budget can't handle the burden of printing and distribution? Or maybe your ecological ethics balk at chewing up trees. Or perhaps you're just intrigued with the idea of publishing in the bitstream. Whatever the reason, many publishers are looking for ways to distribute their pages without paper.

Paperless publishing is in vogue these days, thanks to recently released products such as Adobe Acrobat, No Hands Software's Common Ground, and Farallon Computing's Replica. These products promise a paperless paradise in which a universal cross-platform document format makes distributing documents on-line a snap. This may pique your interest, but what if the price for this new technology is more than you're willing to pay? The Adobe vision of a paperless future, in particular, isn't inexpensive. What are your alternatives, if you want to launch that hot new 'zine into the nets of cyberspace without taking out a second mortgage on your house?

Leave it to those entrepreneurs who inhabit the on-line universe to come up with simple yet powerful alternatives that can be had for a song. Several shareware programs are available that make distributing on-line publications — from simple Read Me files to full-fledged electronic magazines — a practical proposition. Which product you adopt depends on whether you want graphics in your publication (choose among Print2Pict, DOCMaker, and Belgian PostCards) or whether

text-only will do and on whether a document must be viewed across computer platforms (choose Easy View) or just on the Mac. Yet another alternative includes saving your layouts as PostScript files (see the "PostScript Alternative" sidebar). Even if you don't plan to use an on-line service as your publishing medium, these programs may be the answer to your document-distribution dilemma.

One warning: The Achilles' heel of document distribution is automatic font substitution — a problem the commercial products have all addressed, albeit each with a different solution. These shareware programs don't provide any similar capabilities, although Belgian PostCards takes a stab at it. If font fidelity is important to you, use a commercial product or stick with paper.

Each of these programs is available through on-line services. On ZiffNet/Mac, look for them in the Download & Support Forum (GO ZMC:DOWNTech).

Print2Pict

Of the programs examined here, Print2Pict (\$10), by Baudouin Raoult, comes closest to commercial products such as Acrobat and Common Ground. Like those products, Print2Pict is a Chooser printer driver. Essentially, it acts as a virtual printer that captures your pages' text and graphics as PICT previews to a self-launching document (see Figure 1). Print2Pict saves print jobs to other formats, including



- ★ **CheckMark Software** ... 60 day MBG
5863 *MultiLedger 3.0*—Easy-to-use, integrated accounting software selected as a *Macworld* Editors' Choice (11/92)..... **\$225.**
5862 *Payroll 5.1*—Complete payroll management which also works with M.Y.O.B. .. 169.

Since 1984, the original Mac mail-order source. Over 3500 products. Companies with Money Back Guarantees are highlighted with ★.

POWERBOOK

- ★ **Applied Engineering** ... 30 day MBG
8799 *Auto Adapt* 69. 8800 *Battery Charger* 65.
★ **Battery Technology, Inc.** ... 30 day MBG
7562 140-180 *Battery*.. 59. 10392 *Charger*.. 65.
★ **Connectix** ... 30 day MBG
8441 *CPU 2.0*... 55. 10765 *Virtual 3.02*... 55.
10764 *CPU/Virtual Bundle* 69.
★ **Dove Computer** ... 30 day MBG
5383 *DoveFaxPB*..... 99.
★ **Global Village** ... 30 day MBG
7720 *PowerPort/Silver*.. 319. 7710 */Gold*.. 369.
★ **I/O Design Cases** ... 30 day MBG
8121 *PowerBook SL 52*. 8113 *PowerBook EX 59*.
★ **Kensington** ... 30 day MBG
11552 *NoteBook Traveler Compact*..... 49.
1092 *Deluxe*..... 75. 9585 *Executive*..... 115.
5976 *NoteBook Keypad* 79.
★ **Prometheus** ... 30 day MBG
11965 *Ultima Home Office -Powerbook*..... 289.
★ **Sophisticated Circuits** ... 30 day MBG
7425 *PowerPad 69*. 7419 with *QuickKeys* 109.
★ **Symantec** ... 60 day MBG
1199 *Norton Essentials for PowerBook 1.1*... 87.
★ **Targus** ... 60 day MBG
11207 *Leather PB Case 95*. 1305 *Universal* 69.
7369 *NotePac 35*. 6037 *Premier Leather Case* 169.
★ **Thunderware** ... 30 day MBG
3841 *Lightning Scan Portable*..... 399.



- ★ **Inspiration Software** ... 30 day MBG
11269 *Inspiration 4.0*—Easiest way to brainstorm, diagram & write! Offers powerful diagrams & presentation visuals to transform concepts into stories, proposals & reports. Clearly communicate even complex info **\$165.**

- U.S. Robotics
11841 *WorldPort 14.4 Fax* \$359.
Utiltron, Inc.
3012 *PowerSwap (Swap batt. w/o shutdown)*.. 25.
★ **Zoom Telephonics** ... 30 day MBG
10737 *FaxModem PBK* 77.

DAILY BUSINESS

- Abacus Concepts**
7106 *StatView 4.0* 439. 5840 *SuperANOVA* 369.
ACIUS
5618 4th *Dimension 3.04* 575.
★ **Advanced Software** ... 30 day MBG
8051 *InTouch 2.0*.. 55. 9049 *DocuComp II* .. 99.
★ **Aldus** ... 30 day MBG
TouchBase or *DateBook Pro* ea. 49.
8614 *TouchBase Pro/DateBook Pro w/Quicken 4* 95.
★ **Attain Corporation** ... 60 day MBG
8465 *IN CONTROL* 85. 11545 with *Dynodex* 99.
Atticus
12978 *Atticus Vista*..... 45.
★ **Avery** ... 60 day MBG
7446 *MacLabel Pro 1.6.1* 48.
★ **Baseline Publishing** ... 30 day MBG
8881 *Thunder 7 1.5.3*..... 55.
★ **CheckMark Software** ... 60 day MBG
5863 *MultiLedger 3.0* 225. 5862 *Payroll 5.1* 169.
★ **Clarix** ... 30 day MBG
5630 *ClarixWorks/Quicken Bundle*..... 199.
3836 *FileMaker Pro 265*. 11202 *MacWrite Pro* 169.
1745 *MacProject Pro* 399. Upgrades available call

NEW!



Atticus

12978 *Atticus Vista*—An exciting new utility that automatically creates a library of all your disk's contents. Allow users to search and retrieve information quickly and easily—right on your desktop!..... **\$45.**

- Frame Technology**
12983 *FrameMaker 4.0* 599.
IdeaFisher Systems, Inc.
11721 *IdeaFisher 2.0* 95.
★ **Inspiration Software** ... 30 day MBG
11269 *Inspiration 4.0* 165.
★ **Intuit** ... 30 day MBG
11845 *Quicken 4.0* 39.95
★ **Lotus Development** ... 60 day MBG
12715 *Special: 1-2-3 Mac & DeltaGraph Pro Bun.* 99.
MECA
2796 *Managing Your Money 5.0* 32.
★ **Microsoft** ... 30 day MBG
Upgrades available call
2884 *Works 3.0*. 155. 3669 *Excel 4.0* 295.
4902 *Word 5.1*.. 295. 2878 *PowerPoint 3.0* 295.
2565 *Project 3.0* 445. 5454 *MS Office 3.0*.. 475.
★ **Niles & Associates** ... 30 day MBG
4602 *EndNote 1.6*.. 85. 8010 *Plus 1.3* ... 142.
★ **Nolo Press** ... 30 day MBG
2981 *WillMaker 4.0* 35. 1204 *Living Trust* 43.
★ **Now Software** ... 30 day MBG
1793 *Now Up-to-Date* 65. 2366 (10 pack) 519.
★ **Palo Alto Software** ... 60 day MBG
6975 *Business or 4960 Marketing Toolkit* ea. 75.
★ **Pastel Development** ... 30 day MBG
1785 *DayMaker 2.03* 79.
★ **Peachtree** ... 60 day MBG
9588 *Insight Accounting* 299. 9584 *PAM 2.0* 115.



Special Bundle with Quicken 4.0 thru 12/31/93

- ★ **Aldus** ... 30 day MBG
8614 *TOUCHBASE PRO and DATEBOOK PRO Bundle*—Organize your life. Integrated to manage contacts, calendars, appointments & to-dos quickly & easily. *Macworld* Editors' Choice for Personal Information Manager **\$95.**

- ★ **Personal Training Sys.** ... 60 day MBG
Various levels: Excel, Persuasion, FileMaker Pro, Illustrator, FreeHand, Word, WordPerfect, ClarisWorks, MS Works, & Quicken ea. 49.
★ **Portfolio Systems** ... 30 day MBG
7992 *DynoPage 2.0* or 6916 *Dynodex* ea. 38.
★ **ProVUE** ... 60 day MBG
4582 *Panorama II* 239. 11540 *PowerTeam* 95.
★ **Reality Technologies** ... 30 day MBG
12331 *WealthBuilder w/free Zoom AMX Modem* 69.
★ **Spinnaker Software** ... 30 day MBG
7696 *Calendar Creator* or 7694 *Address Book + 40. State Of The Art Accounting*
3041 *Mac P&L 4.0* 175.
★ **Symantec** ... 60 day MBG
7636 *ACT! 169*. 10317 *ACT! Comp. Upgrd.* 79.
★ **Teleware** ... 30 day MBG
7616 *M.Y.O.B. 3.0* 109. 10726 *BESTBOOKS* 55.
WordPerfect
4268 *WordPerfect 3.0* 299. 4711 *Upgrade* 55.
11720 *WP Works/Quicken/QuickDEX II special* 99.
★ **WordStar** ... 30 day MBG
7664 *WriteNow with Correct Grammar 3.0* 42.

GRAPHICS & DESIGN

- ★ **Abracadata, Ltd.** ... 30 day MBG
12083 *Design Your Own Railroad*..... 39.
Architecture, Interiors or Landscape ea. 48.
Adobe Systems (full line available)
8193 *Adobe Audition* 189.
12724 *Acrobat Starter Kit (10 User)* 669.
12732 *Acrobat Exchange (1)* 125. 12731 (5) .. 489.
6665 *Acrobat Reader (1 User)* 32. 2224 (50) 1559.
10167 *Adobe Dimensions* 93. 5001 *Streamline* 119.
10289 *SuperATM* 89. 4145 *Adobe Premiere* 429.
11843 *Illustrator 5.0* 368. 6644 *Photoshop* 548.



- ★ **Palo Alto Software** ... 60 day MBG
6975 *Business Plan Toolkit 4.0*—Customize plans with preprogrammed spreadsheets & text guide. 4690 *Marketing Plan Toolkit 5.2*—An organized method for planning and managing the marketing process ea. **\$75.**

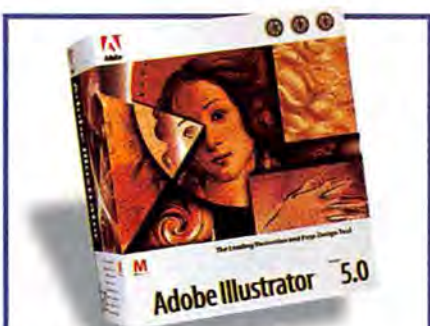
- ★ **Aldus** ... 30 day MBG
 - 6674 Personal Press \$129. 2461 Gallery Effects \$128.
 - 10176 Fetch..... 199. 7541 IntelliDraw 194.
 - 3506 SuperPaint 99. 4751 Persuasion..... 325.
 - 1330 FreeHand 389. 11548 PageMaker 5.0 579.
- Altsys**
 - 1983 EPS Exchange 89. 1195 Fontographer 258.
- ★ **Apple Computer** ... 30 day MBG
 - 3008 Apple Font Pack..... 45.
- Broderbund Software**
 - 3572 Kid Pix 1.2.. 34. 7293 Companion..... 23.
 - 1427 Print Shop... 35. 6281 TypeStyler 2.1 126.
- Caere**
 - 4930 OmniPage Professional 629. 7705 Direct 189.
 - 7925 OmniScan..... 399.
- ★ **Claris** ... 30 day MBG
 - 2518 MacDraw Pro 1.5..... 274.95
- ★ **DeltaPoint** ... 60 day MBG
 - 12715 Special: 1-2-3 Mac & DeltaGraph Pro Bun. 99.
 - 12974 DeltaGraph Pro 3..... special 79.
- ★ **Deneba Software** ... 30 day MBG
 - 11055 artWORKS... 99. 3227 Canvas 3.5.. 259.
- ★ **Eastman Kodak** ... 30 day MBG
 - 12265 ColorSense Mgr. 329. 8198 ShoeBox 99.
- ★ **Expert Software** ... 30 day MBG
 - 4870 Expert Color Paint or 8619 Home.. ea. 29.
- Fractal Design**
 - 1068 Sketcher 1.0..... 49.95
 - 10402 Painter 2.0 265. 1564 PainterX2 special 69.



**WHILE
SUPPLIES
LAST**

Fractal Design

1564 *PainterX2*—An extension to *Painter 2.0*; revolutionizes the way artists and designers combine and orchestrate multiple graphic elements. Floating selections can be painted, scaled, rotated & distorted **special offer \$69.**



Adobe Systems

11843 *Adobe Illustrator 5.0*—More innovations in illustration and page design! Directly manipulate overlapping areas of objects. Combine, divide, slice, dice, or crop. Create new objects and special effects **\$368.**



MicroMat Computer Systems

2998 *Drive Tech*—New floppy drive testing and maintenance program! It checks every track and sector position. Unique interface; makes cleaning, checking and repairing easy **\$41.**
3732 *MacEKG II* **89.**

- Gold Disk**
 - 12279 Astound 249. 12276 Animation Works 115.
- Graphsoft**
 - 11723 BluePrint... 199. 11724 MiniCad +.. 589.
- Gryphon**
 - 4202 Morph 2.0 164.95
- ★ **Letraset** ... 30 day MBG
 - Letraset FontTek Library - Full line avail. call
- Light Source**
 - 11059 Ofoto 2.02..... 275.
- ★ **Manhattan Graphics** ... 30 day MBG
 - 4990 Ready,Set,Go! 6.0..... 149.
- Postcraft International**
 - 2210 Effects Specialist 2.0 89.
- Quark**
 - 7612 QuarkXPress 3.2 589.
- ★ **Ray Dream** ... 30 day MBG
 - 12264 JAG II (increase image quality) 89.
 - 4761 Designer 3.0 239. 12280 addDepth 1.0.2 125.
- ★ **Specular International** ... 30 day MBG
 - 4962 Infini-D 2.5 699.
- ★ **Synergy Software** ... 30 day MBG
 - 6617 KaleidaGraph 3.0 139.
- ★ **T/Maker** ... 30 day MBG
 - ClickArt (bitmapped).. 34. or (EPS)... 55.
 - 3144 Incredible Image Pak 2000..... 89.

PROGRAMMING/UTILITIES

- ★ **Abbott Systems** ... 30 day MBG
 - 5236 CanOpener 2.0 59. 9578 Kaleidoscope 25.
- ★ **Aladdin Systems** ... 30 day MBG
 - 7410 StuffIt SpaceSaver 3.4 34. 6740 Deluxe 65.
- ★ **Apple Computer** ... 30 day MBG
 - 1206 At Ease 45. 7072 QuickTime Starter Kit.. 105.
 - 1074 System 7.1 (with free PCTV video) 79.
 - 12654 Japanese Language Kit..... 195.
- ★ **Berkeley Systems** ... 30 day MBG
 - 1502 The Disney Collection Screen Saver..... 29.
 - 5737 After Dark 2.0x (30+ screens!) 28.
 - 2198 More After Dark.. 23. 2196 Bundle.. 39.
 - 3392 Star Trek: The Screen Saver..... 34.
- ★ **Binary Software** ... 30 day MBG
 - 11989 Square One 1.5.. 45. 12475 Bloopers.. 19.
- Casa Blanca Works**
 - 1593 Drive7 2.3..... 49.
- ★ **CE Software** ... 60 day MBG
 - 1727 CalendarMaker 39. 7927 QuickKeys 3.0 105.
- ★ **Central Point** ... 60 day MBG
 - 10595 Safe & Sound 32. 5041 MacTools 3.0 89.
- ★ **Claris Clear Choice** ... 30 day MBG
 - 11205 Retrieve It!..... 46.
- ★ **Dantz Development** ... 30 day MBG
 - 9115 DiskFit Direct 1.0... 29. 3393 Pro 72.
 - 5255 Retrospect.. 145. 7945 Remote 2.0.. 259.

- ★ **Datawatch** ... 30 day MBG
 - 4803 Virax/Mac \$57. 11486 SuperSet Utilities \$85.
- ★ **Fifth Generation** ... 30 day MBG
 - 5342 MacPak 1.0.. 96. 3955 Suitcase 2.1.3 53.
 - 7404 DiskDoubler 52. 4838 AutoDoubler ... 58.
 - 12298 AutoDoubler/DiskDoubler Combo 85.
 - 10398 CopyDoubler 39. 7704 Public Utilities .. 98.
- FWB, Inc.**
 - 2999 Hard Disk ToolKit 125. 7929 Personal 49.
- ★ **Golden Triangle** ... 30 day MBG
 - 11731 TimesTwo (1.44).. 83. 11773 (800K).. 83.
- ★ **Harvard Systems Corp.** ... 30 day MBG
 - 11193 Kai's Power Tools for Photoshop 89.
- ★ **Inline Design** ... 30 day MBG
 - 7068 INITPicker 49. 1740 Redux Deluxe 2.01 49.
- ★ **Kent Marsh Ltd.** ... 30 day MBG
 - 9513 FolderBolt 71. 1839 NightWatch II 89.
 - 1725 CryptoMatic 1.01 55.
- ★ **Kiwi Software** ... 60 day MBG
 - 11736 Screenscapes 34.
- ★ **Logical Solutions** ... 30 day MBG
 - 10169 7th Heaven 67. 11191 Chameleon..... 39.
- MicroMat Computer Systems**
 - 3732 MacEKG II... 89. 2998 DriveTech.... 41.
- ★ **No Hands Software** ... 30 day MBG
 - 11194 Common Ground 119. 11195 Magnet 85.
- ★ **Now Software** ... 30 day MBG
 - 12303 Now Compress 65. 12304 Now FUN! 45.
 - 6925 Now Utilities 4.0..... 84.95



★ T/Maker ... 30 day MBG

3144 *Incredible Image Pak 2000*—Over 2,000 full-color EPS images drawn by professionals. Plus, 40 Bitstream fonts and a specialty paper sampler FREE from Paper Direct! Easy-to-use images will enhance everything you create **\$89.**



★ Microsoft ... 30 day MBG

5454 *The Microsoft Office 3.0*—Increase office productivity with the latest versions of *Excel*, *Word*, *PowerPoint*, and *Microsoft Mail* (includes licensing for one workstation for use with your existing Microsoft server)..... **\$475.**

1293MU



800-800-4444
MacConnection®
14 Mill Street, Marlow, NH 03456 603-446-4444 FAX 603-446-7791



★DeltaPoint ... 60 day MBG

12974 *DeltaGraph Pro 3*—DeltaGraph Pro 3 is unsurpassed for creating visually stunning, technically accurate charts and graphs, all with publication quality. More than 100 new features! **special \$79.**

★Quadrangle ... 60 day MBG

4393 *Lights Out Sports Fans*..... 35.
Stac Electronics

11568 *Stacker for Macintosh*..... 95.

★Symantec ... 60 day MBG

5176 *SAM 3.5 64*. 6748 *Norton Utilities 2.0* 95.
11727 *C++ 6.0 for Mac 339*. 2688 *THINK C 6.0* 199.

★Teknosys ... 30 day MBG

5203 *Help! 88*. 12291 *Competitive Upgrade* 49.
UserLand Software

4753 *Frontier 2.0*..... 185.

LEARN & PLAY

ActiVision

1039 *Shanghai II* 19. 1134 *Lost Treasures Vol. I* 29.

Broderbund Software

Carmen Sandiego Series (CP)..... ea. 29.

8285 *Where/World Carmen Sandiego Deluxe* 47.

11561 *TRISTAN Pinball*..... 35.

Buena Vista Software

1711 *Heaven and Earth*..... 34.

Bungle Software

7445 *Pathways Into Darkness*..... 39.

★Callisto ... 30 day MBG

11369 *Super Mines* 29. 11756 *Super Maze Wars* 39.

★Carina ... 30 day MBG

7761 *Voyager II, the Dynamic Sky Simulator*.. 99.

★Casady & Greene ... 30 day MBG

ZOA, Crystal Crazy, or Spaceway 2000 ea. 31.

★Centron Software ... 30 day MBG

5910 *Crossword Creator* 39. 8524 *Casino Master* 45.

★Davidson & Associates ... 30 day MBG

10953 *Kid Pictures* 19. 2574 *MathBlaster Plus* 34.

7942 *Kid Works 2* 34. 1076 *Zoo Keeper*..... 34.

Delta Tao Software

2536 *Spaceward Ho!* or 2439 *Strategic Conq.* 36.



Nordic Software

7723 *Language Explorer*—The fun way for kids of all ages to learn new languages **\$29.**
8258 *Turbo Math Facts*—Learn the basics with this entertaining tutor..... **24.**
8257 *Preschool Pack*—Six colorful programs **34.**

★Edmark Corporation ... 30 day MBG

7155 *Kid Desk \$24*. 7318 *Millie's Math House* \$29.

1078 *Bailey's Book House* 29.

Electronic Arts

1907 *PGA Golf 38*. 2805 *Tournament Course* 18.

Game Tek

7433 *Wheel of Fortune*..... 24.

Graphic Simulations

8083 *Missions at Leyte Gulf (req. Hellcats)*.... 20.

4756 *Hellcats Over the Pacific 1.0.3*..... 38.

★Great Wave ... 30 day MBG

6693 *KidsMath 2.0* or 2276 *Kid's Time* ea. 25.

8527 *NumberMaze* or 3471 *DaisyQuest*.. ea. 35.

★HyperGlot Software ... 30 day MBG

(Language Tutorials: full line available)

★Inline Software ... 30 day MBG

11188 *Pax Imperia*.... 44. 1562 *3 in Three*.. 31.

Interplay Productions

1615 *Mario Teaches Typing*..... 29.95

Bridge Deluxe or *Out Of This World* ea. 34.

★Learning Company ... 30 day MBG

Reader Rabbit Series..... ea. 34.

★Leister Productions ... 30 day MBG

7126 *Reunion 3.0*..... 119.

★Maxis ... 30 day MBG

11272 *SimAnt*..... 29. 11270 *SimLife*..... 29.

8157 *Kid's Studio*..... 35.

5279 *SimCity Classic* 24. 11628 *A-Train Bun.* 45.

★MECC ... 30 day MBG

3959 *Word Munchers* 18. 3963 *Oregon Trail* 28.



★Berkeley Systems ... 30 day MBG

1502 *The Disney Collection Screen Saver*—Incl. over 15 well-known Disney displays **\$29.**

3392 *Star Trek: The Screen Saver*..... **34.**

5737 *After Dark 2.0x (30+ screens!)*..... **28.**

2196 *After Dark & More After Dark Bundle* **39.**

★Microsoft ... 30 day MBG

2868 *Flight Simulator 4.0 (CP)*..... 43.95

Nordic Software

7723 *Language Explorer* or 7767 *ClockShop* ea. 29.

8258 *Turbo Math Facts*..... 24.

8257 *Preschool Pack*..... 34.

Psychonosis

11562 *Lemmings*..... 35.

8720 *Oh, No! More Lemmings*..... 29.

Software Toolworks

4619 *Mavis Beacon Typing 2.0 (CP)*..... 29.

5201 *The Miracle (piano teacher)*..... 339.95

★Spectrum Holobyte ... 30 day MBG

3464 *Tetris*..... 23. 4835 *Super Tetris*.... 29.

3017 *Wordtris 1.0* 29. 9113 *Falcon Color*.... 41.

StudyWare

ACT, GMAT, GRE or SAT Prep ea. 29.

Velocity

11538 *Spectre Supreme* 40. 11537 *LAN 2-Pak* 52.

Virgin Software

Scrabble or *Monopoly* ea. 19. 1746 *Risk* 29.

VIDEO AND SOUND

Articulate Systems

Voice Navigator SW (Head/Disk Mike) ea. 319.

Coda Music Technology

5604 *Finale 3.0*..... 549.

Macromedia

7651 *Action Mac* 339. 5087 *Director 3.1* 799.

4598 *MacRecorder Sound System PRO*..... 189.



★Radius ... 30 day MBG

1749 *VideoVision Studio Upgrade*—Record full-screen, full-motion, 60 field per second, digital video input and output, along with stereo audio to and from your hard disk **\$1799.**

★Media Vision ... 60 day MBG

11738 *Pro AudioSpectrum 16 Nubus*..... 329.

Nova Development

11101 *Kaboom!* 29. 12278 *w/More Kaboom!* 40.

Opcode Systems

12230 *Midi Translator II*.. 42. 12225 *Vision*.. 339.

12226 *Audiishop 1.05 61*. 12227 *Musicshop 1.0* 99.

★Radius ... 30 day MBG

1738 *PrecisionColor Pivot (reqs. interface)*.. 999.

1749 *VideoVision Studio Upgrade*..... 1799.

RasterOps

8944 *24STV* 799. 3043 *Paint Board Turbo* 1199.

3048 *20/20 Multiscan Color 20" Display*..... 1699.

Sigma Designs

1565 *MovieMovie* 299. 11541 *ErgoView 17* 1199.

Sony

10530 *CPD-1430 14" Multiscan Trinitron Monitor* 689.

10529 *CPD-1730 17" Multiscan Trinitron*..... 1149.

★SuperMac/E-Machines ... 30 day MBG

4122 *VideoSpigot LC 245*. 4164 (for NuBus) 375.

7677 *17" Multimode Display* 999. Trade Up call

12704 *20" + Color* 1799. 10321 *ColorPg. T1611* 1299.

4720 *21" Platinum Two-Display*..... 1099.

11983 *Thunderstorm 469*. 11982 *Thunder/24* 2299.

10321 *E-Machines T1611 Monitor*..... 1299.

9066 *Futura SX*.. 369. 9065 *Futura MX*.. 649.

8028 *Futura II SX* 459. 8027 *Futura II LX* 819.

8005 *Ultura LX*.. 1189. 7985 *EtherDock*.. 639.

10322 *E-Machines Presenter*..... 439.

CD-ROM

Against All Odds

10330 *From Alice To Ocean Book (with CDs)*.. 39.

Broderbund

3730 *Just Grandma and Me*..... 34.

9059 *Arthur's Teacher Trouble*..... 41.



Caere

7925 *OmniScan*—Caere's OmniScan is a handheld scanning solution with integrated OCR (OmniPage Direct), image-editing (Image Assistant) & recognition capabilities (FaxMaster) in a convenient package **\$399.**



NEWTON

THIS EXPERT PAD'S REALLY SHARP!

\$699.

QUARK

GET THE LATEST
3.2 VERSION OVERNIGHT!

\$589.



MacConnection
Exclusive: FREE
cartridge, DayMaker,
Hard Disk ToolKit PE



SYQUEST

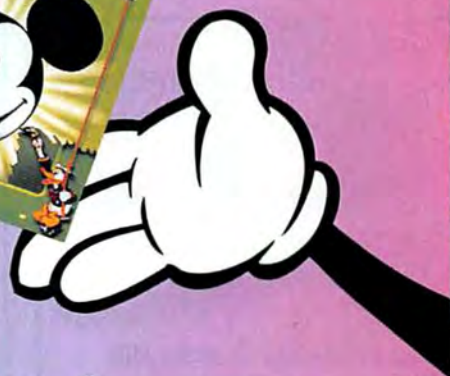
GET DOWN! MDS 44'S HAVE
DROPPED \$90.

\$299.

MICKEY

WHY? BECAUSE HE *LIKES* TO
SAVE SCREENS!

\$29.



800-800-4444
MacConnection®

14 Mill Street, Marlow, NH 03456 603-446-3333 FAX 603-446-7791



★ **Dantz Development ... 30 day MBG**
 7945 *Retrospect Remote 2.0*—Powerful Mac network backup software. For automatic, centralized backup and archiving. Supports compression, encryption, & verification \$259.
 3393 *DiskFit Pro*—Efficient media backup 72.

★ **CoStar ... 30 day MBG**
 1885 *Stingray ADB 79*. 1880 *LabelWriter Plus 239*.
 ★ **Datadesk ... 30 day MBG**
 9830 *MAC101E 129*. 2384 *w/QuickKeys 159*.
Dataproducts
 10318 *LZR 960.. 1099*. 10319 *LZR 965.. 1899*.
Epson
 8194 *Action Scanning Sys. (ES-600C SCSI) 899*.
 10741 *ES-800C Scan. 1199*. 8219 *Pro Mac .. 1399*.
 3052 *Interface Kit for ES-600C or ES-800C .. 325*.
 ★ **GDT Softworks ... 30 day MBG**
 2499 *PowerPrint 94*. 12717 *PowerPrint NW 319*.
Hewlett-Packard
 8368 *LaserJet 4M.... 2199*. 4312 *4ML.... 1189*.
 7970 *Toner Cartridge* 109.
 7665 *DeskWriter 550C* 669.
 ★ **Kensington ... 30 day MBG**
 2547 *Turbo Mouse 4.0 ADB* 107.95
Key Tronics
 6974 *Mac Pro + Kybrd. 135*. 1070 *TrakPro 219*.
 10266 *TrackMate Mac* 95.
Kraft
 7519 *KM30 Joystick 42*. 9508 *Thunderstick 52*.
 ★ **Microtek Labs, Inc. ... 30 day MBG**
 5438 *ScanMaker II w/Adobe Photoshop LE. 899*.
 5441 *ScanMaker IIx w/Photoshop (full pkg.) 1199*.
 ★ **Mouse Systems ... 30 day MBG**
 7520 *Little Mouse ADB or 8001 Plus.. ea. 68.95*
 9471 *A3 Mouse* 79.95
NEC
 2933 *SilentWriter Model 95 with Fax* 1199.
 ★ **Sophisticated Circuits ... 30 day MBG**
 8009 *PowerKey 2.01. 75*. 8008 *Remote* 32.
Thunderware
 4994 *LightningScan 400* 319.
 ★ **WACOM ... 30 day MBG**
 11259 *The ArtZ (6" x 8" Graphics Tablet)* 349.



★ **Targus ... 60 day MBG**
 11207 *Leather PowerBook Case*—Full-grain cowhide, padded computer section, plus plenty of room for power supply, cables, modem, AC adapter, external keyboard, file folders, disks, pens, and more \$95.

UPGRADES & DRIVES

SIMMs ... Various, incl. manual & video call
 ★ **Applied Engineering ... 30 day MBG**
 8361 *1.44 MB HD Drive 229*. 5290 *Plus Drive 299*.
 10282 *TransWarp 4300 (40 MHz, no FPU).... 389*.
 ★ **DayStar Digital ... 30 day MBG**
 1613 *FastCache 040 (Quadra 700 or 900) .. 259*.
 11987 *FastCache 040 (Quadra 700, 800, 900, 950) 359*.
 1312 *Turbo 040i 20 MHz 719*. 1302 *33 MHz 899*.
 PowerCache for SE/30, II, IIx, IIcx, IIci, IIsi, LC 40 MHz 539. 50 MHz 679.
FWB, Inc.
 9529 *PocketHammer 170 475*. 2314 *PH 240 559*.
 12011 *PocketHammer 525* 1175.
 7991 *Mac Transportable 90 PRO* 1549.
IOMEGA
 6499 *90 MB Transportable (reqs. interface). 479*.
 2467 *90 MB Gold Std. Rem. Cart. (Qty. 3).... 289*.
 8781 *Mac Transportable 90 PRO* 479.
 10499 *Transportable MultiDisk 150* 569.
 ★ **MDS Drives ... 60 day MBG**
 MDS 44 *SyQuest w/SW & cartridge ea. 299*.
 MDS 88... ea. 469. MDS 88c... ea. 499.
 11881 *MDS 120 MB Fixed Drive (zero footprint) 299*.
 11880 *210 MB* 429. 11863 *540 MB* 899.
 11963 *MDS 120 MB Fixed Drive (upright)* 329.
 11962 *210 (upright) 449*. 11961 *540 (upright) 899*.
Mobius Technologies, Inc.
 8049 *Speedster 33MHz with FPU* 869.
 8030 *Speedster 25MHz without FPU* 599.
Peripheral Land, Inc. (PLI)
 8327 *Infinity 40 Turbo 459*. 11470 *88/RW 44 625*.
 8399 *Infinity 3.5" Optical Drive* 1149.
 2864 *Infinity Floptical Drive (21 MB)* 399.
 2865 *Floptical Cart. (21 MB) 25. 2899 (10 pk.) 230*.
 8811 *1 GB Mini Array.. 2399*. 8803 *2 GB.. 3499*.



★ **BASF ... 30 day MBG**
 11803 *3 1/2" HD Disks (4) Bundle*—Catch it all with BASF, the magnetic media inventors! All backed by a lifetime warranty. Act now, and receive a free T-120 videotape when you buy four boxes of 3.5" HD diskettes! \$49.

ACCESSORIES

★ **Apple Computer ... 30 day MBG**
 9773 *StyleWriter Ink Cart. 19*. 8499 *(3 pack) 55*.
 LaserWriter Toner: Personal 65. LW II 85.
 ★ **Avery ... 60 day MBG**
 5392 *Avery 5196 (3 1/2" Disk Labels-Laser).... 29*.
 Disks/Media Various manufacturers.... call
 ★ **BASF ... 30 day MBG**
 11803 *3 1/2" HD Disks (4) Bundle* 49.
 ★ **I/O Design Cases ... 30 day MBG**
 8812 *Ultimate Classic 60*. 1941 *Ultimate LC 89*.
 1473 *PowerBook Attache Case (burgundy) .. 149*.
 ★ **Kensington (full line) ... 30 day MBG**
 2559 *Apple Security Kit 33*. 4973 *Pwr. Tree 20 24*.
 ★ **Moustrak Mouspads ... 30 day MBG**
 Star Trek..... 14. 2694 *Blue 7 x 9* 8.
 ★ **Targus ... 60 day MBG**
 7369 *Notepac 35*. 7370 *Business Traveler 199*.

OUR POLICY/SHIPPING

- VISA and MASTERCARD. No surcharge added.
- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on subsequent shipment(s) (in the U.S.).
- No sales tax, except OH (pls. add applicable tax).
- All U.S. shipments insured; no additional charge.
- APO/FPO orders shipped First Class Mail.
- International orders U.S. \$100 min. Add 2% surcharge & \$2.30 insurance. Vendor support/upgrade eligibility may be limited outside U.S. Some products not available for export. Call or FAX for info.
- Upon receipt and approval, personal & co. checks clear same day for immediate shipment of your order.
- Corporate P.O.s & bids accepted. Call for info.
- COD maximum \$1000. Cash or certified check. COD orders require an additional \$4.50 charge, ship via UPS and may require additional UPS charges.
- 120 day limited warranty. Defective hardware repaired or replaced at our discretion. Defective software replaced immediately. Item availability, prices and promotions are subject to change without notice.
- We are not responsible for typographical errors.
- Hours: 8 a.m. Mon. continuous thru 5 p.m. Sun. ET. Bus. offices: 603-446-7711 Mon-Fri 9 to 5:30 p.m. ET.

Continental U.S.: Total shipping charge on any order is \$3. Barring events beyond our control, all credit card orders (no CODs) phoned in weekdays by 3:15 a.m. ET will ship Airborne Express for delivery the next business day. That's *same day del.* for orders placed btwn. midnight and 3:15 a.m. (Some orders ship UPS Ground for next day delivery). Saturday delivery available to many areas upon request at no additional charge. Order all day Saturday thru noon Sunday for Monday delivery. Some areas req. an extra day delivery. **Hawaii, Alaska, Canada, Puerto Rico & U.S. Virgin Islands:** Shipping may require additional time and charges. Call 800-800-4444 for information. **All other areas:** Please call 603-446-4444 or FAX 603-446-7791 for information.



★ **Logical Solutions ... 30 day MBG**
 With 7th Heaven & Chameleon, System 7 springs to life! Utilities change your Mac into what it should be; fast, colorful & easy to use.
 10169 *7th Heaven* \$67.
 11191 *Chameleon* 39.



★ **Manhattan Graphics ... 30 day MBG**
 4990 *Ready, Set, Go! 6.0*—Desktop publishing that puts professional layout capability within every user's reach. Includes grids, an electronic pasteboard, precision text & object rotation, & a powerful typographic word processor \$149.

SPECIAL PRICE!
(EXPIRES DEC. 31, 1993)

- CD Technology**
 2321 CD-ROM Caddy \$11. 4084 America Alive! \$75.
 8057 Porta Drive CD-ROM Drive 619.
FWB, Inc.
 10198 CD ToolKit.. 49. 11582 HammerCD.. 659.
***Highlighted Data ... 30 day MBG**
 1488 Elec. Map Cabinet or 7771 Webster's Dict. 149.
Interplay Productions
 7111 Battle Chess CD-ROM Enhanced 45.
***Media Vision ... 60 day MBG**
 CD-ROM Multimedia Kit (Sony or NEC) 699.
***Microsoft ... 30 day MBG**
 1741 Musical Instruments on CD-ROM..... 55.
NEC CD-ROM Drives
 6577 CDR-38 Portable 279. 6582 CDR-74-1 419.
Peripheral Land, Inc. (PLI)
 12441 Multi-Session Int. CD-ROM Super Bun 599.
 12442 Multi-Session CD-ROM Drive Bundle.. 649.
***Presto Studios ... 30 day MBG**
 11330 The Journeyman Project 44.95
Software Toolworks
 10309 US Atlas 39. 3915 Grolier Encyclopedia 225.
***Spectrum Holobyte ... 30 day MBG**
 1485 Iron Helix 59.
Time Warner
 7454 Hell Cab 1.0 (CD-ROM) 64.
Wayzata Technology
 11605 CD Fun House 25. 10188 Macnificent 7 35.
 8602 Best of Shareware..... 35.



U.S. Robotics

11842 Sportster 14.4 Mac & Fax—Data and Fax to 14,400 bps. V.32bis, V.42/MNP 2-4 error control, V.42bis/MNP 5 compression. Includes LC version FAX/stf and MicroPhone LT, cable, & specials on Prodigy & CompuServe \$239.95

COMMUNICATIONS

- *Apple Computer ... 30 day MBG**
 7073 Mac PC Exchg. 69. 7102 AppleShare 969.
 7101 AppleTalk Remote Access 149.
Asanté Technologies, Inc.
 Asanté Lite Ethernet Cards ea. 125.
 2775 10/T Hub-8 249. 2772 10/T Hub-12 499.
BOCA Research
 11052 M1441 V.32bis FaxModem 189.
***Cardinal Technologies ... 30 day MBG**
 7670 MVP24MAC 59. 11621 MVP96MAC 169.
 11698 MVP144MAC with FAX 189.
***CE Software ... 60 day MBG**
 8066 QuickMail (5 user) 279. 8067 (10) 399.
Coactive
 1184 Mac Connector 29.
 1189 Coactive Connection Mac to PC 179.
***CompuServe ... 60 day MBG**
 1676 Membership Kit 25. 1673 Navigator 3.2 49.
***DataViz ... 60 day MBG**
 1823 MacLink Plus/PC 129.
 4842 MacLink Plus/Translators 109.
***Dayna ... 60 day MBG**
 11878 DOS Mounter Plus 54.95
 12041 Safe Deposit Personal..... 59.
 DaynaPORT E: (BNC or 10 BASE-T) ea. 149.
 8719 EtherPrint or 9888 (10BASE-T) ea. 339.
***Dove Computer ... 30 day MBG**
 6758 DoveFax 2.. 119. 9634 DoveFax+V.. 189.
 12453 DoveFax 144E.. 239. 10200 Pro+V.. 399.
 8971 DoveWriter 379. 8970 Sheet Feeder 99.
***Farallon Computing ... 30 day MBG**
 Full line of EtherMac cards available call
 4869 PhoneNET Connector 10-Pk (DIN8) ... 195.
 4802 PhoneNET StarController 357 899.
 9805 Timbaktu 5.0 or 4866 Remote 3.0.. ea. 129.
 9516 PowerPath..... 105. 9518 LocalPath 139.
 6922 Replica for Mac 69. 7407 (10 user).. 499.
***Freesoft ... 30 day MBG**
 6115 White Knight 11 89.
***Global Village ... 30 day MBG**
 2175 TelePort/Silver... 319. 2179 Gold... 369.
 7889 TelePort/Bronze II 95.
 3418 GlobalFax Software for PowerBook Duo 79.
Hayes
 10822 ACCURA 2400.. 69. 11422 96 Fax .. 209.
 11419 ACCURA 144 + Fax 144 235.
 2300 Smartcom II.. 84. 5971 OPTIMA 24.. 119.
 3037 OPTIMA 144FAX Pocket 309.
Insignia Solutions
 7557 AccessPC 3.0..... 78.95
 4089 SoftPC .. 99. 10553 SoftPC Windows.. 299.
***Practical Peripherals ... 30 day MBG**
 8063 PM14400FX FaxModem 419. 11045 MT 229.

- *Prometheus ... 30 day MBG**
 4724 Home Office.. \$129. 8990 Ultima.. \$219.
***Shiva ... 30 day MBG**
 3444 NetSerial 1.35 275. 6555 LanRover/L 599.
 LANRover/4E for ARA or Netware ea. 1699.
 LANRover/8E for ARA or Netware ea. 2549.
 NetModem/E (thick, thin, 10BASE-T) ea. 1479.
***Software Ventures ... 30 day MBG**
 1964 MicroPhone II... 139. 3455 Pro..... 209.
***Sophisticated Circuits ... 30 day MBG**
 10172 Desktop Dialer..... 47.
***STF Technologies ... 30 day MBG**
 7644 FaxManager Plus 74. 7638 FaxSTF LC 25.
Supra FAXModems
 11223 V.32bis 14400 229. 5337 14400LC 159.
***Synergy ... 30 day MBG**
 6618 VersaTerm 5.0 109. 6619 PRO 5.0 169.
U.S. Robotics
 11842 Sportster 14.4 Mac & Fax..... 239.95
***Zoom Telephonics ... 30 day MBG**
 7757 Fax/Modem AFX 69. 3553 VFX V.32bis 172.
 7917 Pocket Fax/Modem 77.
 3576 FX9624V Send/receive V.42 Fax/Modem 119.

INPUT/OUTPUT

- Advanced Gravis**
 1482 Game Pad.. 39. 9963 MouseStick II.. 69.
***Appoint ... 30 day MBG**
 Mac Crayon (red, blue, green or yellow) ea. 32.



Central Point Software

5041 MacTools 3.0—New MacTools 3.0 offers one-click undeleting, background disk checking and antivirus protection in one package .. \$89.
 11812 Universal Upgrade..... 49.



- *Dove Computer ... 30 day MBG**
 8971 DoveWriter—A portable thermal printer that produces laser quality output, 360 x 360 dpi; Weighs only 2.6 lbs and fits in your briefcase or laptop carrying case \$379.
 8970 20-Page Sheet Feeder 99.



Postcraft International

2210 Effects Specialist 2.0—120 dynamic effects, each modifiable in thousands of ways. Full color support. Transform any PostScript, bitmapped or TrueType fonts. Use with any DTP, drawing, WP or paint program..... \$89.



- *ProVUE ... 60 day MBG**
 4582 Panorama II—The versatile, fast, and easy to use database with something for everyone! Charts, outlines, advanced graphic tools, multiple user capability, and much more \$239.

1293MU



MacConnection®

© Copyright 1993 PC Connection, Inc. MacConnection is a division and registered trademark of PC Connection, Inc., Marlow, NH. MacTV is a trademark of PC Connection, Inc.

HEADS, IT'S REAL. TAILS, IT'S FAKE.

It's your choice. A little more than 50 percent of all business software in use today is pirated. If you buy it, you could end up with virus-ridden, phony software that has no documentation or product support.

Selling or copying pirated software without authorization is against the law, with severe criminal and civil penalties including imprisonment of up to five years, fines of up to \$250,000, or both. If you suspect the sale or use of pirated software, call the BSA Anti-Piracy hotline:

(800) 688-BSA1 (2721)



© 1993 Business Software Alliance. All rights reserved.

DESKTOP PUBLISHING TECHNIQUES

QuickTime (with the help of a third-party shareware extension), but its self-launching file format, called *postcard*, will be of the most interest to people who want to distribute files on-line.

Print2Pict postcards protect on-line publishers from having to worry about the format in which to send files. You simply create your publication in your favorite word-processing, page-layout, spreadsheet, or database program and then choose Print from the File menu. The postcard, with all of its formatting and graphics intact, becomes instantly accessible to anyone with a Mac, whether or not they have the program in which it was created. An added benefit is that Print2Pict postcards tend to compress to far smaller sizes than would have been possible with the original page-layout documents. For example, a 2-megabyte PageMaker document that compressed to 1 megabyte shrank to 400K when we converted the original to Print2Pict postcard format and then compressed it. And in the world of on-line distribution, smaller is definitely better (for more handy tips, see the "Pointers for On-Line Publishing" sidebar).

Recipients can view postcards on-screen or print them on any printer. The postcard format lets them easily navigate to various parts of the document by using the Index menu, which lists the sections of the postcard like the chapters

of a book. Option-clicking on any page adds it to the Index menu. Users can create hierarchical menus from the main Index-menu items and can jump from page to page by using the Page menu or go to a specific page number by using a pop-up dialog box.

Print2Pict is an exquisite program in most respects. On the negative side, however, Print2Pict postcards are not cross-platform. Like all but one of the programs mentioned here, Print2Pict is Mac-only. And as expected, you must use fonts you're sure recipients also have installed or postcards will display and print incorrectly.

Baudouin Raoult, 17 Home Farm Close, Reading, Berkshire RG2 7TD, England. Available on ZiffNet/Mac as P2PICT.CPT, in Library 3 (Extensions).

DOCMaker

Mark Wall's DOCMaker (\$25) takes a different approach to the problem of distributing documents. Unlike Acrobat and Print2Pict, which are printer drivers, DOCMaker is itself an application. A bit like TeachText on steroids, it lets you compose and format a document that has as many as 30 chapters (32K each). You can place as many as 20 graphics in each chapter and can also import text files created in other programs and format them in DOCMaker. The program supports styled text (including control over type color), and you can save text formatting as styles, just as with many word processors. In addition, DOCMaker lets you create footers and page breaks.

Once you've created a document, you have several options. You can save it as a self-launching application so that any Mac user can open the document and view or print it without any special software. This type of DOCMaker file works just like a Print2Pict postcard. When you save in this format, you have the option of creating a table of contents, a footer, a customized About box, or Print or Find commands. You can also add a command that lets recipients export the file's contents as text.

DOCMaker is an excellent piece of software and was recognized as such with an honorable mention in *MacUser's* 1992 Shareware Awards (see "The MacUser Shareware Awards," September '92, page 152). It's not uncommon to find lowly Read Me files or even snazzy electronic periodicals — such as the outstanding *Inside Mac Games* (see Figure 2) —

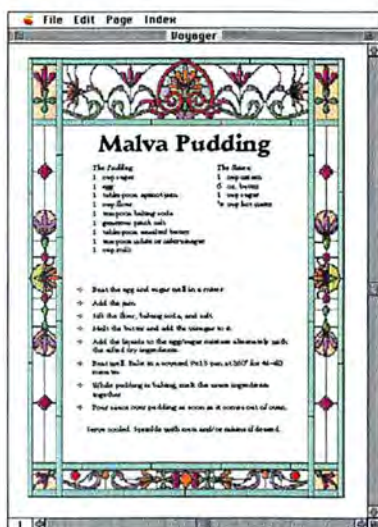


Figure 1: Print2Pict can save complex documents from virtually any Mac application in a format that anyone with a Mac can read — with all the formatting and graphics intact.

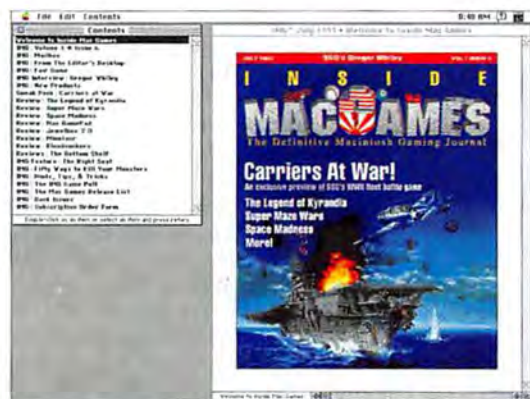


Figure 2: DOCMaker creates stand-alone documents that can be distributed to any Mac user. The electronic magazine *Inside Mac Games* is an outstanding example of what you can accomplish with this program.

distributed as DOCMaker self-launching documents. If the choice is between TeachText and DOCMaker, the latter wins hands down. Its primary disadvantages are familiar ones: It's Mac-only,

and you're restricted to using such common (read *boring*) fonts as Helvetica and Times if you want them to display correctly on other people's Macs.

Mark Wall, Green Mountain Software,

The PostScript Alternative

On-line publishers turn to the text-only format for a good reason: Plain ol' ASCII is just about the only thing all computers understand. But if you want to impress people by showing them a graphics-laden publication created with your favorite page-layout program, you need to find another way.

One language that lots of printers have in common is Adobe's PostScript page-description language (PDL). If the people you need to reach have a PostScript printer, you can send them a file they can download and print. Creating a PostScript file is as easy as printing one. When you print to a PostScript printer, you actually translate your document into PostScript code and send the code to the printer, which interprets it and prints pages. When you print to a PostScript file (the option to print to a file appears in the Print dialog box if you're using LaserWriter 7 or later and in many application drivers as well), the text that would usually go to the printer goes to a text file on your disk instead.

Then send it away for others to print. (Mac users can use Apple's LaserWriter Utility or Adobe's SendPS to send these PostScript files to their printers.) People who don't have PostScript printers can use Custom Applications' Freedom of Press, which translates the PostScript for display and printing.

This process does have drawbacks. The big one is file size: Because your PostScript file must contain printer commands as well as text, it's a lot bigger than a plain-text file. Graphics increase the file size even more. Creating a PostScript file doesn't protect you from font problems either. If the people at the other end don't have the fonts you used when creating your file, all they'll see is Courier or some other unattractive font their printer has substituted. You can include font information with your PostScript file, but doing so expands the file size even more, because you're sending entire fonts along for the ride. Use only the four fonts that just about every PostScript printer knows: Times, Helvetica, Courier, and Symbol.

— Jason Snell



The on-line magazine *InterText* is sent to its subscribers in text-only and PostScript formats.

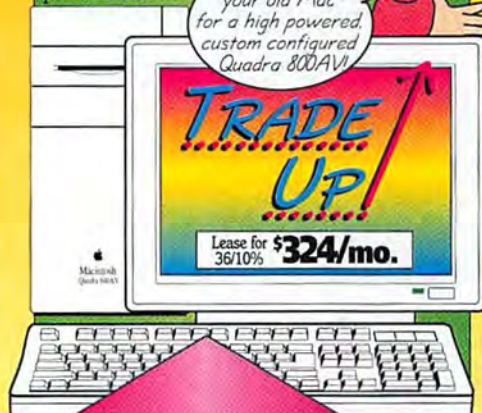
MacFriends Hot "Macroeconomics" Tip # 8

TRADE UP TO THE GOLD STANDARD

Quadra 840AV

The ultimate audio visual Mac is here! Now get the high end integration of audio, video, voice and telephone technologies rolled into a super powered tool.

Trade up your old Mac for a high powered, custom configured Quadra 800AV!



Total Pkg...\$10988

- Mac Quadra 840AV
- 24MB RAM
- 1 Gig HD (1000MB)
- 20" Trinitron Color Monitor
- HP 4M Laser Printer w/10MB
- Ext Kybd w/Quickkeys Lt.
- 2 Year QuickKor Kare
- Norton Utilities

with your Mac ci*

TRADE UP!
or cash of...\$1500

\$9488

*Trade allowance may vary depending on actual equipment traded

Just call and see how easy we make buying a Mac!



MacFriends is the smart choice!

- We're America's most experienced Mac specialists.
- Our QuickKor Kare guarantees replacement overnight.
- Leases, revolving credit, P.O.s and CODs no problem!
- Fast overnight delivery to your door.
- Equipment is tested, preformatted & ready to run.



800 331-1322

Local: (503) 286-9350 24 hour QUICKFAX (503) 286-8710

CIRCLE 100 ON READER SERVICE CARD.

Everything you need for your Mac's safety.

ASD® SECURITY TRIO.

1.



FileGuard®

Well known as one of the best security programs on the market, FileGuard

fully protects applications, documents, folders, and hard disks from copying, erasure, and unauthorized access. *MacUser* calls it "about as much software-based security as you can get in one package."



2.

TrashGuard™

The ideal method of confidential file shredding. This utility automatically obliterates any evidence of trashed Mac files, making their recovery impossible.



3.



FileDuo™

The perfect answer for busy Mac users—FileDuo automatically performs backups of files, folders,

or hard disks, so quickly and easily you might not even know it's there! And there's no restoration involved—stored files are exact replicas of the originals!



For more information, call 909.624.2594

To order, call **800.255.6227**



4650 Arrow Highway, Suite E-6
Montclair, CA 91763

Fax: 909.624.9574 Applelink: ASD

CIRCLE 10 ON READER SERVICE CARD.

DESKTOP PUBLISHING TECHNIQUES

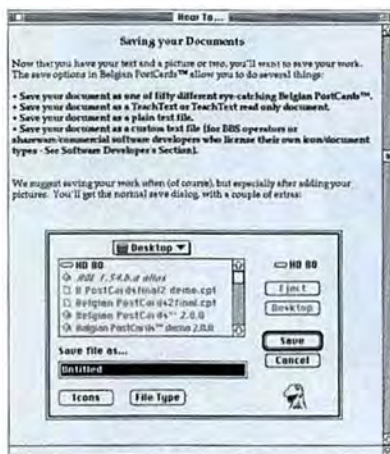


Figure 3: Belgian PostCards lets you format text in different fonts, point sizes, and styles. You can add graphics and sounds and decorate Belgian PostCards documents with custom icons.

9404 Valley Lane, Huntsville, AL 38503. Available on ZiffNet/Mac as DOCMAK.SEA, in Library 1 (Applications).

Belgian PostCards

The delightfully named Belgian PostCards (\$25), by Mark Clark and Karl Pottie, came by its moniker because one of its programmers is Belgian and because the files it creates can include graphics as well as text. Belgian PostCards files are also easy to send. Like DOCMaker, Belgian PostCards is an application and a kind of super TeachText. In fact, the authors originally developed it to make it easier to include graphics in a TeachText document (a complicated process that normally involves using ResEdit). Once they got started, however, the program evolved into something a bit more sophisticated.

Belgian PostCards lets you enter or open text files and format the text, using different fonts and point sizes in the same document. It doesn't offer the same ability as DOCMaker for saving and reusing styles, however (see Figure 3).

The program does offer a workaround for the missing-fonts problem. The Belgian PostCards Viewer prompts recipients to assign installed fonts for any fonts used in the document that don't exist on their Macs. It's not the perfect solution, but at least it avoids the usual default Courier substitution.

Additionally, you can insert graphics and even attach sounds to them. Using

the sound option is a good way to add annotations to a document, provided you have a Mac with a mike. You can save files as Belgian PostCards or as TeachText. If you use the TeachText format, you cannot use styled text.

This program is obviously aimed primarily at generating Read Me files jazzed up with more text formatting and graphics than TeachText allows. It's not the best choice for creating more-sophisticated documents. The postcard files it produces aren't self-launching: You must send the free Belgian PostCards Viewer (a largish 130K program) along with the file. As is the case with Print2Pict and DOCMaker files, Belgian PostCards files are Mac-only.

Mark Clark, Quantum Mechanix, 21221 Unicorn Lane, Roland, AR 72135. Available on ZiffNet/Mac as BELGPC.SEA, in Library 1 (Applications). The on-line version is demo-only.

ASCII, and Ye Shall Receive

Print2Pict, DOCMaker, and Belgian PostCards each let you distribute text and graphics but restrict you to sharing your files with Mac users. If you want files that can be easily read on PCs as well as on Macs, you need to look to text-only alternatives — and that means abandoning graphics. Don't look to Apple's TeachText to solve your cross-platform document-distribution problems, by the way: The text files it creates don't include the line feeds and line breaks that are essential if you want to save files in the text-only format the DOS and Windows side of things can digest. The OS/2 System Editor opens and displays TeachText files nicely, but TeachText files without line feeds usually appear in DOS or Windows applications with their paragraphs jumbled up.

Several excellent text editors are available that enable you to add line feeds to your documents, including the commercial program Vantage, from Baseline Publishing, and the shareware program BBEEdit Lite (free), available on ZiffNet/Mac as BBLITE.SEA, in Library 1 (Applications).

Setext and Easy View

The problem with text-only files, of course, is that they're boring. Readers must scroll around the entire document to find sections of interest. And there's no way to jump back to a particular section later. But a variant of text-only, called

**GREAT AS
MAC & PC
SCREEN
SAVERS**
ALL UTILITIES
INCLUDED

COREL PROFESSIONAL PHOTOS C D - R O M

Works with any ISO 9660 CD-ROM drive (XA support not needed)

Royalty Free

Kodak Photo CD Format

Mac & PC Compatible

Ideal for Desktop Publishing

Each collection features 100 razor-sharp Kodak Photo CD format photographs on a single disc. The stand alone Corel utilities included let you turn any of these stunning CD-ROM photo images – or your personal photos on CD – into Screen Savers.

Save time and money on stock photography!

Corel Professional Photos are royalty free for all applications and ready for color separation. There are no additional fees. That makes them ideal for use in any visual communication such as ads, brochures, presentations and multimedia.

Already more than 100 titles:

Sunsets & Sunrises • Mountains • WWII Aircraft • Porsche Racing • Coasts • Wild Animals • Sailboats • Birds • Trees & Leaves • Patterns • Underwater • Arctic • Auto Racing • Bridges • People • Churches • Food • Lakes & Rivers • Waterfalls • Fields • Death Valley • Fireworks • North American Wildlife • Predators • Water Fowl • Alaska • Hawaii • Turkey • Northern California • Monkeys • California Parks • Cactus Flowers • Butterflies • Mexico City • New Mexico • Korea • Sacred Places • Singapore • Guatemala • Doors of San Francisco • Air Show • Flowers • China & Tibet • Africa • Ireland • Western Canada • Arizona Desert • Spirit of Buddha • Commercial Interiors • Egypt • Residential Interiors • Deserts • Plants • Insects • Windsurfing • Swimming • Castles • Cityscapes • Computer Graphics • Couples • Education • Environment • Executives • Faces • Fighter Jets • Firefighting • Rowing • Fishing • Glamor • Golf • Health • Jewelry • Law • Lamborghinis • Lighthouses • Lingerie • Medical • Reefs • Roads and many more...

The world's leading photo CD collections from the makers of CorelDRAW, the world's best selling graphics software!

CALL NOW! EXT. 118
1-800-772-6735

\$ ATTENTION PROFESSIONAL PHOTOGRAPHERS! \$

If you are a professional photographer interested in having Corel publish your photographs, please call the number below for more information.

CALL: (613) 728-8200 ext. 5080

CIRCLE 109 ON READER SERVICE CARD.

Comprehensive Utilities Included:

- **Corel SCREEN SAVER**
- **Corel MOSAIC VISUAL FILE MANAGER**
- **PRINTED PHOTO REFERENCE GUIDE**

MPC
Multimedia PC

Photo CD

Suggested List Price

\$49.95
U.S. Funds

**100 SUPERB IMAGES
IN EACH COLLECTION!**



The MPC logo is a trademark of the Multimedia PC Marketing Council, Inc.
The PhotoCD symbol and logo are trademarks of Eastman Kodak Company.

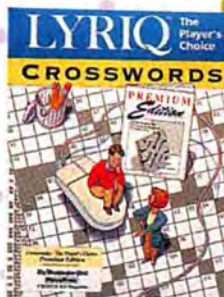
KLS-0022

The Mac Zone is proud to offer you this exceptional value!

SERIOUS

FUN

SAVE 60%
All 6 Products for Only
\$124.98



Here's a *serious business* software solution for your home office or small business, plus a challenging, entertaining trio of games for some *serious fun*!

Lotus 1-2-3 1.1

The best-selling spreadsheet ever

Lotus® 1-2-3® for Macintosh® is pure Macintosh – delivering powerful, graphical, easy-to-use spreadsheet features you won't find anywhere else. Edit text, data or formulas right in a cell. Or rearrange graph elements in seconds by clicking and dragging them – and more! Get all the power of Lotus 1-2-3 in a spreadsheet designed to harness the power of your Mac. Upgrade from any spreadsheet program. **Regular Zone price: \$80.96**

WriteNow 3.0 with Correct Grammar

The fastest, easiest way to write on the Macintosh.

Now with FREE Correct Grammar!

WriteNow 3.0 boasts high performance features like an extensive spellchecker and thesaurus, autonumbered footnotes,

Reg. Zone Price \$343.78

You Pay Only \$124.98

Save Over \$218.00!

multiple columns, style sheets and WYSIWYG editing – everything you need for impressive documents. Plus, it

requires half the space of other word processors, making it ideal for your PowerBook! **Regular Zone price: \$80.96**

InTouch 2.0

"...best of the free-form address-book packages." – MacUser 3/93

InTouch's free-form style makes it the easiest-to-use contact and time organizer you can buy! Store unlimited names and addresses, quickly group, sort and list your contacts, then call them with Auto-dial ease. **Regular Zone price: \$58.98**

Circle 135 on Reader Service Card for more information. Mention source code #31237 when ordering



FREE CD!

Thanks to a technology breakthrough, Lotus 1-2-3 is also available as part of 650MB of best-selling software on The Mac Zone Instant Access CD. Now you can try it BEFORE you buy it, then own it instantly – all from a single CD! See The Mac Zone ad in this issue for details, or call the Instant Access CD Center toll-free at 1-800-864-8080. \$1.95 for shipping and handling via U.S. Mail

Buy with confidence from The Mac Zone – But Hurry!

Take advantage of this super value from your low-cost, catalog superstore! Offer ends Dec. 31, 1993! Our friendly, knowledgeable sales advisors are ready to take your call now. With fast, overnight delivery, you'll be enjoying some serious fun in no time. Join the thousands of satisfied Mac Zone customers. Call today!

Order before 2 a.m. ET weekdays for next day delivery!

© 1993 Multiple Zones International, Inc. Lotus, Macintosh and The Mac Zone are registered trademarks. All major credit cards accepted. All U.S. shipments insured at no extra charge. All products covered by 120 day limited warranty. Add applicable sales tax (only in WA, OH). Prices and product availability subject to change without notice. Orders subject to policies published in every Mac Zone catalog. Call TOLL FREE for details.

To Order Call: 1 • 800 • 258 • 0882

The Mac Zone
Your Catalog SuperStore

Pointers for On-Line Publishing

- Fonts don't travel well. Settle on fonts your readers are likely to have, or design with font substitution in mind.
- For text-only files, limit yourself to the lower 128 ASCII characters. On the Mac, that means forgoing any characters you get by using the Option or Command key, such as em dashes and smart quotes.
- Smaller is better. Large, complex files are costly to your subscribers, who pay by the minute to download them. Use compression, and keep large graphics to a minimum.
- For smaller files, stick to black-and-white graphics. Optionally, distribute both a color and a black-and-white version. That way, your readers can decide if the color is worth the extra download time.
- When compressing files, use a popular compression format. If you distribute to both DOS and Mac users, either post two compressed versions (one in ZIP format for DOS-heads and one in Stuffit or Compact Pro format for Mac users) or use a format that DOS as well as Mac people can use, such as Tommy Brown's Ziplt for the Mac.

— Pamela Pfiffner

setext (structure-enhanced text), can turn regular text-only files into something more sophisticated.

Setext files are ordinary text-only files users can open with any text editor or word processor, but they include unobtrusive formatting tags (which you manually add to the text) that become important if the files are opened in a setext viewer instead. In a regular word processor, a setext file looks like any other text file. The tags usually appear as simple underlines. But if you open the file with M. Akif Eyler's Easy View setext viewer (free), the tags force Easy View to present the file in a structured format (see Figure 4). Chapters and sections are listed in panes at the top of the Easy View window, and you can easily

navigate the document by clicking on a chapter or section name. It's a lot easier than scrolling blindly through a file.

At present, there are no setext viewers available for DOS and Windows users, but by the time you read this, non-Mac setext viewers should be in circulation, making setext an excellent text-only cross-platform distribution method.

M. Akif Eyler, Bilkent University, 06533 Ankara, Turkey. Available on ZiffNet/Mac as EASYVW.SEA, in Library 1 (Applications).

Contributing editor Gregory Wasson is the author of *MacUser Guide to Shareware*. He's also the chief sysop of the ZiffNet/Mac Download & Support Forum and can be contacted at 72511,36 through either ZiffNet/Mac or CompuServe.



Figure 4: When viewed in a word processor, a setext file contains simple underlines that serve as special formatting tags (a). Now look at the same file viewed in the setext viewer Easy View (b). The tags enable the viewer to show the text-only file as a structured document with chapters and sections.

The part of the Macintosh® Apple forgot.



A simple, intuitive tool that
puts your favorite files at your
fingertips and turns this...



into this.



Square One™

Square One organizes all your files into an easy-to-use icon palette. Double-click on anything in your palette to launch it. Group several files into a single work-group icon and open them all at once. End the clutter of a scoreful of windows and the hassle of rummaging through your hard drive.

Here's what the critics say:

"...You'll find this product an efficient and well-designed addition to your productivity arsenal."—MacUser



"This dandy application for System 7 provides the best icon-based approach to file management and program launching we've seen."—MacUser, 13 Work-Smart Utilities You Can't Live Without.

"...Square One is the best kind of utility software: it does what you want, when you want it. More programs should be this well written."—MacWorld



BINARY
SOFTWARE

Ask for **Square One**
everywhere
software is sold.

2210 WILSHIRE BLVD 900 • SANTA MONICA, CA 90403
PHONE 310-451-9044 • FAX 310-451-0315

The Gaussian Glow



You've heard about Gaussian blur a zillion times, but did you know about Gaussian glow? Here's how to use Photoshop's channel operations to add a new glow to your images.

By Kai Krause

In the October issue, we examined some complex combinations of what I call channel operations, or chops for short (see "More Algorithmic Painting" October '93, page 127). This month I'll outline a simple, yet powerful, procedure that yields unusual halo and glow effects in color images.

This procedure is another example of what I call algorithmic painting — that is, creating images not by using drawing tools but by controlling processes. This technique should also point you in new directions for using applications such as Photoshop, Painter, and PixelPaint Professional 3. And I hope it will encourage you to explore the virgin snow of advanced imaging.

In principle, algorithmic painting works with any image of any size, in color or gray scale. For this example, I'm using a 400-dpi RGB PICT image of an eye taken from a Photo CD image (see **Figure 1**).

Making It Glow

Creating this Photoshop effect requires three components — a mask and two source images — so the first step is to create two copies of the original image, by using Duplicate (under Calculate, on the Image menu).

The first copy will serve as the source of the desired soft-halo and -glow areas. To get that effect, apply the Gaussian Blur filter (under Blur, on the Filter menu). Think of this image purely in terms of its glowing nature, which means it can — indeed, it should — be blurred to smithereens, something you may have rarely done before. In this example, I applied a Gaussian blur of 27, with extreme results (see **Figure 2**).

Let's move next to the second copy of our original image: We need to turn this one into a gray-scale image. Convert it from RGB to gray scale by selecting Grayscale from the Mode menu (when Photoshop asks if you want to discard

color information, click on OK). Your whole screen will appear in gray scale, but don't worry about that.

With me so far? Good, because here comes the central idea of the technique: You isolate regions of this gray-scale image until these areas become either black or white. This simplified version of the image will be used as a mask in the Composite channel operation, which combines the original image in some areas with the blurred image in other parts. The result can be beautiful subtle halos, glows, auras, and such, all of which can be meticulously controlled.

Creating the Mask

Creating the mask hinges on modifying the gray-scale copy by manipulating it with the Levels control.

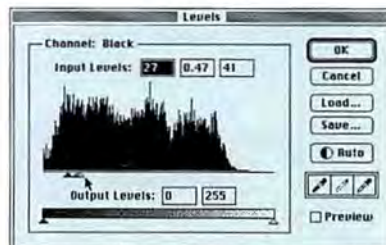
In this example, I used the Levels control (under Adjust, on the Image menu) and moved the three Input Levels triangles close together and to the left (see



1. Take the original image.



2. Blur it to smithereens.



3. Change the input levels.

Figure 3). What we want to achieve here is an image whose full range of grays are compressed into a nearly black-and-white coarse mask, which we'll use in the next step.

I wanted to isolate a part of the image that was recognizable but grossly posterized. As you see in **Figure 4**, the inside iris, eyelid, and eyebrow are now nearly solid black and the rest of the image solid white.

You can achieve a similar effect by using Threshold or Curves or doing other manipulations, but it's not as important for you to follow the exact steps here as it is to understand the reasoning behind them. You may well find new regions to explore by *not* following my example too closely.

Applying the Mask

So far, this is akin to chef Wolfgang Puck chopping up all the ingredients and putting them into little bowls. Now for the magic of throwing them all together: Open Composite (under Calculate, on the Image menu).

As you see in **Figure 5**, the Composite dialog box shows two source images and a mask. The logic is simple: Where the mask is white, you get the image that's in Source 1; where it's black, you get the image in Source 2. That's it.

Let's set it up: The gray-scale mask image from Figure 4 is in the middle pop-up menu called Mask. The two sources — Figures 1 and 2 — are the blurred image (Source 1) and the normal image we started with (Source 2). Be sure that the channel pop-up menus for the source images show RGB (or CMYK, if you're working in that mode), not just the red or black channel, for instance.

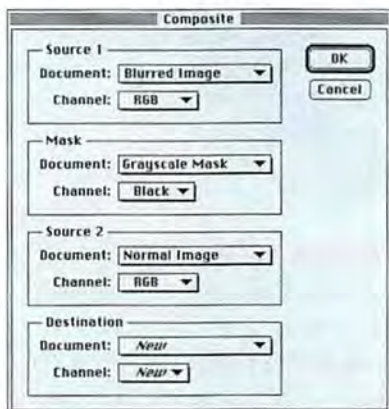
When you click on OK, you get the result, shown in **Figure 6**. Where the



4. Use the posterized image as a mask.

mask is black, in the eye details, you get the clean, sharp original; where the mask is white, which is everywhere else, you now see the smooth, blurred areas. I did not make the mask totally hard-edged black-and-white but left shades of gray, so the two source images mix together softly.

The result is cool, soft, subtle, and exceedingly hard to achieve with any other technique — forget about manually applying blur tools or brushes.



5. Apply the Composite chop.



6. Put them all together.



7. Reverse the source images.


Beyond the Glow

Let's step back a little. There are many ways to go from here, so let's try some variations on this theme. For one, simply swapping the images in Source 1 and 2 creates a different look (see **Figure 7**). This time the white areas of the mask carry the original, and the eye details in the black areas are soft and cuddly.

In fact, you can think even more abstractly. The two images being brought together via the Composite chop can be anything at all! One source can be inverted, and the other can be diffused; one can be pointillized, and the other can have Find Edges applied to it. Who's to say what's right and wrong, and who knows how it will look? If you think *you* know, just try it. You may end up with some killer surprises staring right back at you.

Here's another tribute to the power of chops. If you use a simple Difference chop (under Calculate, on the Image menu) on the two glowing images you just created and then add a little color correction (aw, just play around — try clicking on the Auto button, under Levels, for instance), you may get something that looks like . . . gulp . . . *this* (see **Figure 8**).

When you use this technique someday — and you will — and it's the next award-winning poster, send me a note on America Online, where we have talked about these things for a couple years.

One last tip: The Mac has an off switch. Once a week, use it. 

Kai Krause has been using Photoshop since before it was in beta. He conducts a Photoshop forum on America Online (keywords KPT Support) and is vice president of research and development of HSC Software, which publishes Kai's Power Tools, plug-in modules for Photoshop.



8. Try the Difference chop.

The Best Way To Get To Your Printer On Ethernet Is Now

Way Better.

Call And
Ask About Our
New Token Ring
Support!



New version 2.0 is the best update we've ever made to our award-winning EtherPrint, the original and best way to put your LocalTalk printers on Ethernet.

1. New Security Features.

For easier network management,



EtherPrint™ can now be named and password protected. And our new SecurIt™ protection software lets you assign passwords and control access to any LocalTalk device attached to any EtherPrint in any zone.

2. Easier Installation.

EtherPrint has always been renowned for being remarkably easy to install and use, right out of the box. Well now we've made it even easier. You can power on EtherPrint and its LocalTalk devices in any sequence for fast, error-free start up.

3. Connect More Devices.

A single EtherPrint now connects two printers or other LocalTalk devices.

That's double the device support for the same low retail price of \$499. EtherPrint Plus connects up to four devices for just \$599, which makes EtherPrint very well connected.

\$499.

4. More Ethernet Options.

All Ethernet cable types are supported, from thick and thin to 10BASE-T. But only EtherPrint offers the option of all three connectors on one model. And with

our auto-sensing technology, there are no switch settings to change when you switch cable types.

5. Way Better Support.

Like all Dayna networking products, EtherPrint comes with a lifetime warranty, 24-hour turn around on repairs, and free technical support from the best trained technicians in the Macintosh networking industry.



Dayna led the way in LocalTalk printing on Ethernet. It's only fitting that now we've made it better. Way better. Ask your favorite reseller about EtherPrint today, or call us directly for more information.

EtherPrint Owners Call For Upgrades.

801-269-7200



EtherPrint is a trademark of Dayna Communications, Inc. All other product names are the trademarks of their respective holders. © 1993 Dayna Communications, Inc., Sorensen Research Park, 849 West Levoe Drive, Salt Lake City, UT 84123. Phone: 801-269-7200. FAX: 801-269-5820

CIRCLE 133 ON READER SERVICE CARD.



Dayna

Macintosh Networking Specialists



Look, ma, no wires: Ever get a cellular phone to work reliably with your PowerBook? Thought so. Fortunately, Air Communications (408-749-9883) has come to the rescue with its AirCommunicator, a **modem/cellular-phone combo** with a serial port that connects di-



rectly to your Macintosh's serial port via a supplied cable. The modem, which is built in to the cellular phone, supports up to V.32bis speeds (14,400 bps) and offers reliable 9,600-bps cellular connections — perfect for ARA on the road. Although the unit itself costs \$1,495, you won't need a special modem on the other end of the connection; the AirCommunicator performs the neces-

Ethernet onboard without sacrificing an extra slot. According to AE, these \$129 Ethernet cards are compatible with Apple's Ethernet drivers. And if you want both Ethernet and external video on the same daughterboard, AE can sell you that too — it's called the VideoX — for \$499. 800-554-6227 or 214-241-0055.

SLIPpage: ARA isn't the only game in town for remote network access from your Mac. If you predominantly use TCP/IP service, check out one of the three SLIP products (a **triple-SLIP threat?**) that work with MacTCP to give you an Internet connection over standard phone lines from your Macintosh. VersaTerm SLIP comes with the VersaTerm products, from Synergy Software (215-779-0522), of which VersaTilities 1.1 is the least expensive, at \$145; it includes MacTCP, SLIP software, and numerous other useful TCP/IP tools for the Mac. ♦ InterCon (703-709-9890) offers its SLIP product, InterSLIP, free to owners of all InterCon products; InterSLIP is available over the Internet via ftp at the address [ftp.intercon.com](ftp://ftp.intercon.com). ♦ MacSLIP 2.0, from Hyde Park Software, costs more than InterCon's product, but anyone can buy it. It's \$49.95 per copy (\$22.95 to upgrade from version 1.0); volume discounts are also available. Sales are handled through TriSoft, at 800-531-5170 or 512-472-0744. ☐



sary magic internally, and the remote modem is none the wiser. ♦ For networking that is more up-close and personal, check out Co-operative transceivers, from Photonics (408-955-7930). These little boxes (expected to cost approximately \$300 each) use diffuse infrared signals to provide **wireless LocalTalk** connectivity. Each device plugs in to a Mac's printer port, just like any other LocalTalk transceiver. With the help of a \$50 adapter, you can connect a transceiver to an existing twisted-pair LocalTalk network. Unlike previous infrared strategies, which required all transceivers to be within sight of each other, these new ones cover a 25-x-25-foot area by bouncing the signals off walls and ceilings.

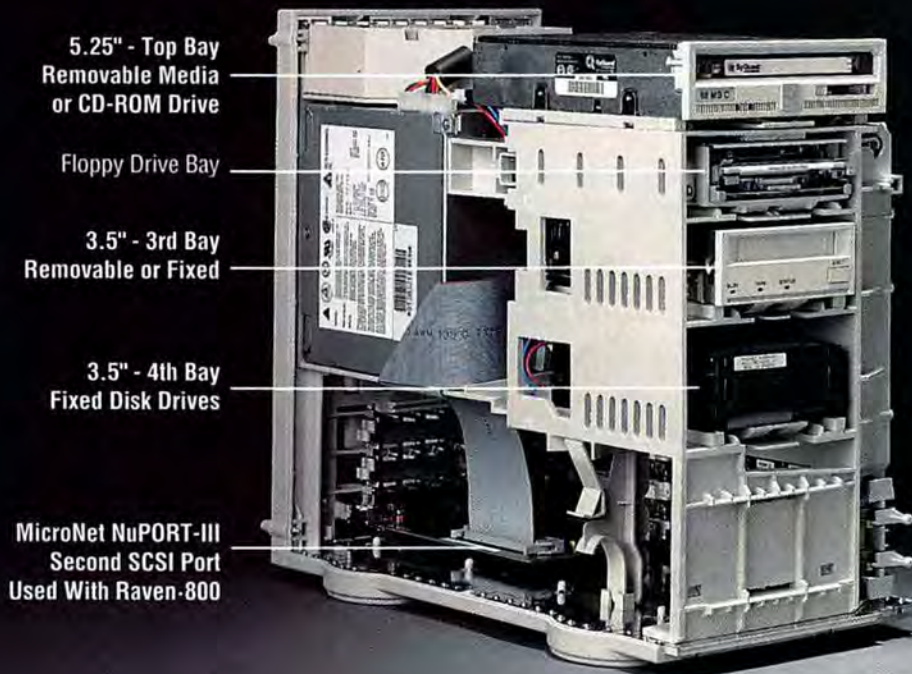
One-slot wonders: So, you gambled that you wouldn't need a multiple-slot Mac — and it looks like you've lost. You want an accelerator card *and*



By Stephan Somogyi

Disk Array Power!

NOW AVAILABLE
Easy to Install Raven Upgrade
Kits For Existing Apple 500 or
1000 MB Disk Drives



Raven-800/840av
Two Drive Disk Array



MicroNet's Raven-800. Disk Array Power For The Quadra 800/840av.

MicroNet is the first to bring disk array power to the Quadra 800/840av. Using a pair of fast spindle disk drives, the Raven-800 transfers up to 6.2 MB/sec of sustained data with average access as fast as 4 ms.

Disk arrays can improve performance up to 400 percent over standard drives. Combine MicroNet's Raven-800 disk array with the speed of the Quadra 800/840av and you have an unbeatable system for audio recording, full rate digital video, and graphics applications such as PhotoShop.

Cost effective two drive disk arrays are available in capacities of 1030 to 5560 MBytes and are expandable to more than 38 GBytes. MicroNet offers Raven upgrade kits for existing MicroNet or factory installed Apple 500 or 1000 MByte drives.

Built on award winning technology, the Raven-800 takes full advantage of Apple's existing hardware. One drive connects to the native SCSI port of the Quadra, and one connects to a MicroNet NuPORT-III, SCSI-2 host adapter. Together, these two drives create a fast, parallel, 16-Bit data path.

MicroNet offers a family of internal data storage systems for the Quadra 800/840av. Included are SyQuest removable systems, rewritable optical drives, and DAT backup systems. We back you with our 24-hour tech support and Over-Night-Exchange service.

To put high performance disk array power in your Quadra 800/840av, call our Sales Department today for the name of your nearest Reseller. 1-714-453-6100. Ask for a free copy of our Quadra 800 Configuration Guide.



Quality You Can Count On Since 1988

MicroNet Technology, Inc.



80 Technology • Irvine, California 92718 • Sales Telephone: (714) 453-6100
Sales FAX: (714) 453-6101 • AppleLink: MICRONET.SLS • Compuserve: 76004,1611

Raven-800 is a trademark of MicroNet Technology, Inc. All other trademarks are the property of their respective owners.

CIRCLE 114 ON READER SERVICE CARD.

AppleSearch Your Net



If you spend too much time browsing around your server for important files, let Apple's new utility AppleSearch find your data for you — it can even automatically search on-line services.

By David Beaver

The Information Age is here, and we're all drowning in data. Even a small business can find itself creating hundreds of new documents every week, and the electronic on-line services, such as CompuServe and America Online, can pump a huge amount of data into our computers. The result? Many of us have file servers full of documents, but we can't find the information we need.

Sure, you can find files manually by plowing through folder after folder, but for maximum efficiency, you should try using a full-text-indexing program, such as Apple's new AppleSearch or ON Technologies' On Location. Full-text indexing creates a list of the locations of almost all the words in every document, much like the index at the back of a book. When you ask for a word, the application looks through the index it's created and tells you the locations of the word you asked for.

Unlike single-user programs such as On Location, AppleSearch brings full-text-indexing technology to multiple users on a Macintosh network for the first time. AppleSearch can show you, in seconds, a list of all the documents on a server that contain any string of words you specify. But that's not all — you can even use it in conjunction with on-line news services, such as those available on CompuServe and America Online, to automatically create your own electronic newspaper filled with articles preselected according to your criteria (see Figure 1).

Installing AppleSearch

AppleSearch uses a *client/server* architecture, devoting one central Mac (the server) to the task of storing and searching for data. Users can access the server with AppleSearch's client software, which is installed on their Macs.

The AppleSearch server software works with the AppleShare file-server software and can be installed on any Mac that's running AppleShare 3.0 or 4.0 or the new AppleShare Pro, which is designed for the high-end Apple Workgroup Server 95. You can also use AppleSearch with a network-shared folder via System 7's built-in file sharing. Unfortunately, you can't use AppleSearch on a NetWare for Macintosh volume connected to a PC NetWare server.

If your network includes an AppleShare file server, installing AppleSearch is simply a matter of running a standard Apple Installer. During setup, the administrator can decide which folders on the server will be indexed and who on the network will have access to them.

After you've installed the software, AppleSearch must build an index of the documents in the folders you've selected. Be prepared: You'll need lots of disk space, so you may have to buy a bigger hard-disk drive to accommodate indexes. AppleSearch indexes use about as much disk space as the original source documents, because they include almost every word in most documents ("stop words," such as *a* and *the*, are filtered out, and verbs are reduced to their root forms). In addition,

TRADE UP TO A TOP PERFORMER

THE CENTRIS 650

Experts proclaim the Centris 650 a multimedia value that offers great performance returns for the price! Now you can add a CD ROM player for just \$18/mo. more!

Take stock in this great deal from MacFriends!

TRADE UP!
Lease for 36/10% **\$135/mo.**

040 FAST!

Total Pkg...\$5088

- Mac Centris 650
- 24MB RAM
- 340MB HD
- 17" Color Monitor
- Math Coprocessor
- Ethernet
- Ext Kybd w/Quickkeys Lt.
- 2 Year QuickKor Kare
- Norton Utilities

with your Mac si*

TRADE UP!
or cash of...\$1200

\$3888 Balance

* Trade allowance may vary depending on actual equipment traded.

Every Mac is
**CUSTOM
CONFIGURED**
especially for you!

In the fast paced Mac market a MacFriends Trade Up makes a lot of sense!

It's easy to buy from MacFriends:

1. Call 800-331-1322 toll free
2. Discuss custom configuration of your Mac with a friendly, knowledgeable system designer.
3. Sit back and relax!

TECH SUPPORT
**800
TOLL FREE**

**Mac
Friends**

AMERICA'S "MAC-ONLY" STORE

VISA
MasterCard
AMERICAN EXPRESS

800 331-1322

Local: (503) 286-9350 24 hour QUICKFAX (503) 286-8710 #8821

CIRCLE 102 ON READER SERVICE CARD.

BRIDGES DATA RETRIEVAL

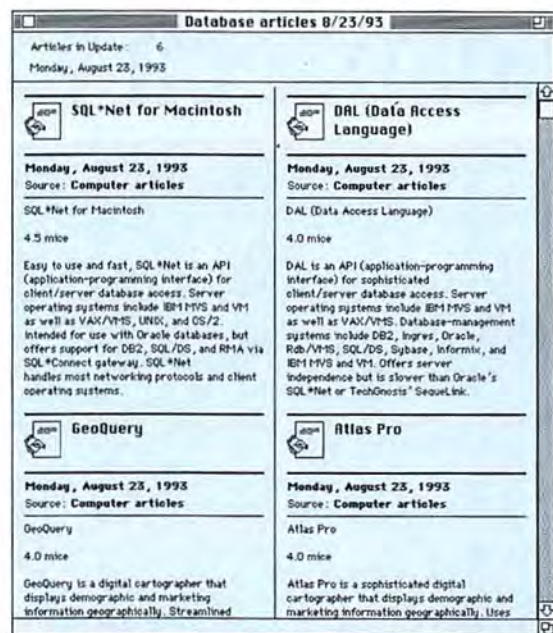


Figure 1: Imagine turning on your Mac each morning and being presented with a summary of articles collected from on-line news sources. We asked AppleSearch to show us articles that appear daily about database programs. Here's the report for August 23, 1993.

building the indexes the first time requires temporary disk storage of about 15 megabytes for every 10 megabytes of source data. The temporary storage space is freed after the index has been built. Indexing can also be done — slowly — if less space is available. It's a good plan to use a separate hard drive to hold the indexes.

Once the initial index has been created, AppleSearch automatically indexes any additional documents placed in its folders, on a schedule the administrator sets. Because AppleSearch includes the

Clarix XTND and DataViz MacLinkPlus file translators, it can extract the text from most popular word-processing files as well as page-layout files such as those created by PageMaker and FrameMaker; it can also extract nonformula text from Excel. You can add additional translators to index other types of files.

One of AppleSearch's most useful features is that it can index data on CD-ROMs too, letting you find data on a CD-ROM quickly. If you create your own CD-ROMs for distribution, consider including an AppleSearch index on the



Figure 2: AppleSearch can find documents in the haystack that is a server. You enter the text you want to find, and AppleSearch displays a list of documents, ranked in order of relevance (indicated by the number of stars), that satisfy the search criteria.

discs. And if commercial data publishers also start including AppleSearch indexes on CD-ROMs, users will save the time needed to index the documents. (Indexing time varies but takes roughly one hour for every 15 megabytes of data.) You can increase the speed of searches by copying the index files from a CD-ROM to a local hard disk. AppleSearch can recognize that two indexes exist and lets you choose which it should use.

Using AppleSearch

Once the server is running, using the AppleSearch client application to search for documents is simple: Just type a few words and click on the Search Now button, and after a few seconds, AppleSearch returns a list of all the documents on your server that contain those words (see Figure 2). The list is sorted in order of relevance; the system attempts to ascertain which documents meet your request most closely, based on complex formulas that account for the number of times the words appear, how close they are together, and other rules.

For complex searches, AppleSearch uses Boolean operators. For example, you can search for President W/2 Clinton to get all the documents in which the word *President* appears within two words of the word *Clinton* (some examples are *President Clinton*, *President Bill Clinton*, and *President William Jefferson Clinton*). You must memorize the syntax of the eight available commands, including NOT (which means "exclude documents that have this word") and wildcard operators (? for any one character and * for any sequence of characters). You'll probably find yourself starting with a simple request, but if it is too general and returns too many documents, you can combine operators into very complex statements to get a shorter list of documents.

Once you have your list of documents, you have three choices: You can view the text on your screen, you can save the text to your hard disk, or you can copy the original source document to your disk. It's at this point that AppleSearch's limitations start to show. For example, it can't open the original document, so if you want any of the original formatting, you must open the document manually. And you can't delete or copy a file directly from the list AppleSearch gives you. Instead, you have to open the file-server volume from your Mac's Finder and select the documents manually.

Automatic On-Line Searches

One of AppleSearch's most exciting features is that it can act as a powerful filter on an incoming stream of data from an electronic news service or other source. For example, you can set up AppleSearch to retrieve Dow Jones articles on mergers of mid-sized European fruit companies. To do this, you save *Reporter* files that contain search criteria on the server. AppleSearch runs searches at regularly scheduled intervals to find any new documents that have been added since the search was last run and that meet your search specifications.

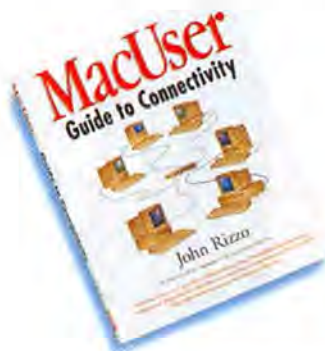
AppleSearch alone can't gather on-line data: You need communications software such as Software Venture's MicroPhone Pro, which can be programmed to connect to the source and download files into the folders used by AppleSearch. But AppleSearch can automatically index these new documents, and your Reporters can have the documents you want available to you the next morning in a newspaperlike document (see Figure 1). This might be useful for investors who want to see all the news stories on certain companies or for doctors who want to keep up with any new pharmaceutical announcements on the business wire, for example.

AppleSearch costs \$1,799 for a server and five clients, and \$499 buys you ten additional clients. APDA's developer's kit (\$299) lets you build AppleSearch in to your own software; for information, call the Apple Network Information Line at 408-862-3385.

Full-text-indexing technology has been used for a long time on high-end workstations, and it's about time Mac network users had such a capability. AppleSearch still doesn't have some of the features available on workstation systems, such as versioning, which resolves the confusion created by having multiple versions of a document on a server. AppleSearch would also be much more useful if it were integrated with the Finder, so you could open or delete original documents from within AppleSearch. Even so, AppleSearch does provide an inexpensive and easy method for quickly finding the information you need, letting you avoid the arduous task of getting to know every file on a server. ■

David Beaver is president of The Automation Group, a San Francisco database-management consulting firm.

No Mac Is An Island.



ISBN: 1-56276-056-4
Price: \$27.95

MacUser technical editor John Rizzo tackles the full spectrum of Macintosh connectivity options. He covers everything from basic telecommunications to full-blown networks, showing you how to master and extend the built-in connectivity power of the Macintosh.



Available at fine bookstores, or call
1-800-688-0448
ext. 7240

© 1993 Ziff-Davis Press

CIRCLE 24 ON READER SERVICE CARD.

HOW TO USE PC DATA WITHOUT LOSING YOUR COOL



You asked them to give you the file on a disk. But the floppy they handed you was formatted for an IBM PC.

Worse yet, the file was created by a program you don't have.

So what kind of gyrations do you have to go through now? None at all, if you've installed AccessPC. ➔

All you need to do with the disk is pop it into your Mac's floppy drive.

And all you need to do with the file is double-click.

You see, AccessPC makes PC disks look just like Mac ones.

And it makes PC files instantly accessible to your Macintosh applications. ➔

It even lets you write PC files back to disk from your Mac programs.

How, you ask, does AccessPC do this?

Unlike other packages that only provide disk compatibility, AccessPC also includes dozens of translators.

So when you try to open a file ➔

your Macintosh doesn't recognize, AccessPC opens it anyway — and asks you which Mac format to convert it to. ➔

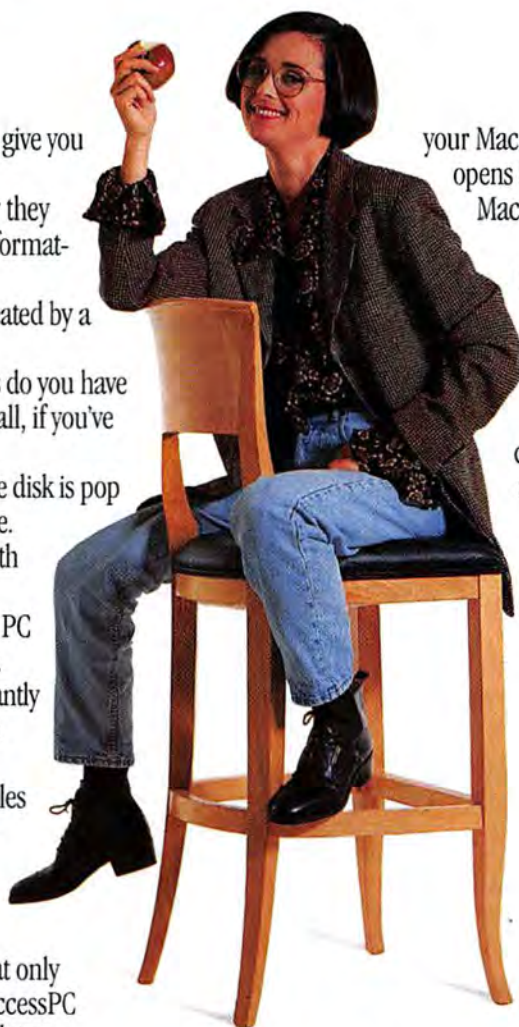
And when you go to write a Mac file to a PC disk, AccessPC lets you choose which PC format you want.

Speaking of choices, AccessPC works with all kinds of PC media — from floppies and flopticals, to Bernoullis, SyQuests and mageto-opticals. It lets you format and partition them, too.

Dial 800-848-7677. Or visit your dealer for a demo. ➔

And discover the words that best describe AccessPC.

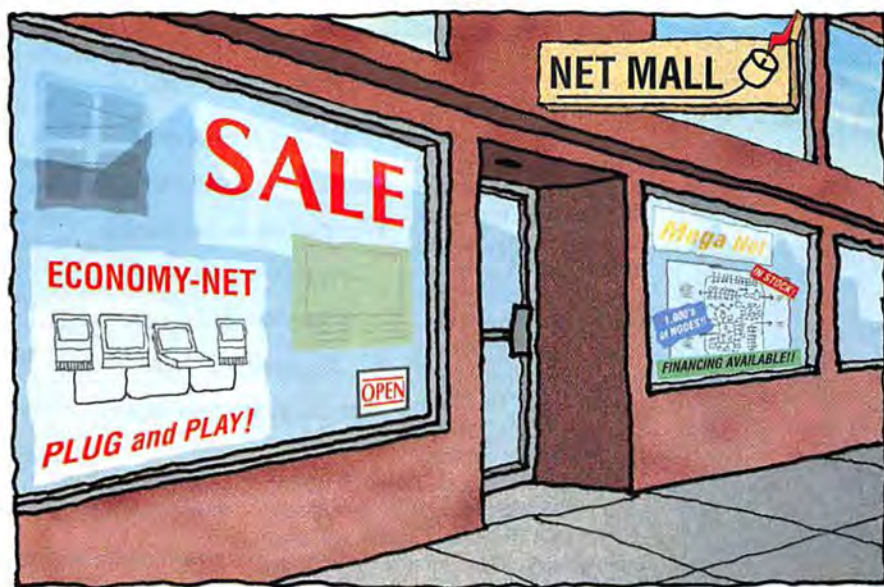
No sweat.



In Europe, call (44) 494 459426

Insignia

Low-Budget LANs



*If you need only a small Mac-to-PC network,
you don't have to invest in an expensive network operating system.*

By John Rizzo

In the '60s, it was the space program. In the '70s, it was 8-track tape, quadraphonic sound, and Betamax VCRs. In the '80s, it was high-tech weapons outfitted with video cameras. Now that we're in the '90s, Big Networking is the technology that's getting all the attention. Big Networking — information highways, global networks, and data empires — is now on TV, in the newspapers, and on the lips of celebrities. Big Networking may be hip, but for many of us who actually use computers, the big news is still in Little Networking.

Rather than an information highway, many people just need an information pathway — a simple, inexpensive way to move files between Macs and PCs without using a dedicated file-serving machine. Little Networking is easier than ever, which means you don't have to hire a consultant to set up a system for you. Little Networking is also inexpensive enough that you can try out more than one product.

The Solution for You

The number of little-network options has been growing, and rather than duplicating services, each new product seems to be aimed at a slightly different audience. I've described some of these products in the past (COPS' COPSTalk, in April '93, page 215, and Farallon's Timbuktu, in March '93, page 197).

Now I've had a chance to look at four new products that connect Macs and PCs. Three of the products — the Coactive

Connector (\$149), from Coactive Computing (415-802-1080); Personal MacLAN Connect (single-user, \$199; 10-pack, \$995), from Miramar (805-966-2432); and LANtastic for Macintosh (\$599), from Artisoft (602-293-4000) — let Macs and PCs share files and printers, but they do so in quite different ways. The fourth new product — the EtherWave (\$150 to \$400), from Farallon (510-814-5000) — is a series of Ethernet connections for Macs and PCs that is truly a breakthrough.

But before I describe my experiences with these new products, let me tell you what to look for in network products:

● **Pick the right pieces.** Know what you're buying. Not all products come complete with everything you need.

The first piece you need is some kind of hardware to transmit the network signals. Little networks rarely stray from anything more exotic than LocalTalk or Ethernet.

Next is the network-protocol software that enables the computers to recognize each other. This software is usually invisible to users except as a series of files loaded in the PCs on the network. (The Mac already has AppleTalk built in.) All the products I've mentioned, including Timbuktu and COPSTalk, use the Mac's native AppleTalk network protocol for the Macs, and most use it for the PCs as well.

In addition to all this is user-interface software that gives Windows users a way to open Mac folders or share Windows directories with Macs. It is in this area that the products differ the most, both in capabilities and in look and feel.

TRADE UP TO

PORTABLE POWER

PowerBook 180c

Your productivity will skyrocket to new heights with the PowerBook 180c because it gives you the speed and beautiful color of a desktop system even when you're nowhere near your desk!



Total Pkg...\$5151

- PowerBook 180c
- 6MB RAM
- 210 MB QuickKor HD
- 14.4 Fax Modem
- Carrying Case
- Extra Battery
- 2 Year QuickKor Kare

Every Mac is
CUSTOM CONFIGURED
especially for you!

with your
TRADE UP!
or cash of...\$1200

\$3951 Balance

TECH SUPPORT
800
TOLL FREE

Confused about which Mac is right for you? It's easy to call and talk to our Mac experts!



The Powerbook 165c gives you the same speed and storage as the 180c with a clear, 256 color screen but the best news is that it is \$1500 less than the 180c!

PowerBook 165c
36/10%
\$95/mo.



800 331-1322

Local: (503) 286-9350 24 hour QUICKFAX (503) 286-8710 #8822

CIRCLE 103 ON READER SERVICE CARD.

BRIDGES

MAC TO PC

● **Do you need speed?** How fast do you want your network to be? LocalTalk tends to be cheaper for Macs, because all Macs have built-in LocalTalk hardware and software, but many newer Mac models also have built-in Ethernet, which is four to five times as fast as LocalTalk. For PCs, LocalTalk and Ethernet cost about the same.

LocalTalk is fine for groups of less than a dozen or so Macs and PCs, provided you're not passing around multi-megabyte files — in that case, don't even consider LocalTalk. Most of the networking products work with either Ethernet or LocalTalk (the Coactive Connector is a LocalTalk-only product).

● **Where's the data stored?** Decide where you want to store shared data, on the PCs or on the Macs. All these products let Mac and PC users share files, but they differ in who is the sharer and who is the sharee. For instance, COPSTalk and Timbuktu each let PC users access Mac hard disks in the form of AFP network volumes, such as folders shared via System 7's file sharing. PC users can't publish parts of their hard disks on the network.

LANtastic and Personal MacLAN Connect are just the opposite — the Mac users can access shared directories on PCs, but the PC users can't access System 7 shared folders. This is not intrinsically better or worse than the COPSTalk/Timbuktu method — in either case, Mac and PC users are accessing the same areas. It just means that the shared data is stored on the PCs instead of on the Macs.

The Coactive Connector is the only one of the bunch that lets Mac and PC users share files on each others' disks. (Timbuktu has two-way remote control — a great feature, but it's a little bit more complex than simple file sharing.)

You also need to make a decision about printing. The Coactive Connector, COPSTalk, and Timbuktu let PC users print to Mac printers, but Mac users can't see printers attached to PCs. Personal MacLAN Connect is the reverse, letting Mac users print to PC PostScript printers. LANtastic for Macintosh gives you two-way printing.

● **Do you have more Macs than PCs?** The number of Mac and PC users

you are planning to connect is important, because some products work better in certain situations. Do you have a predominantly Mac shop with a few PCs, or is it the other way around?

● **How small is your network?** Some products enable you to expand your network as your organization grows,

whereas others are optimized to work best with small workgroups. Don't buy a product that can expand to handle a thousand users if you'll never have more than a dozen — you'll spend more money and time trying to get it running than you would with a simpler, less expensive product. And don't be afraid to discard a product when you outgrow it — you'll save time and money in the long run.

Using Personal

MacLAN Connect on Windows is actually less complicated than setting up System 7 file sharing on the Mac.

Hands-On Network

The best way to choose a networking system is to get your hands on the products and try each one out on a few machines. This is exactly what I did with the Coactive Connector, Personal MacLAN Connect, LANtastic for Macintosh, and the EtherWave.

To create a network consisting of a handful of Macs and PCs or to plug a few PCs in to an existing Mac network, nothing was easier than using the Coactive Connector. The connector itself is an intelligent parallel-to-LocalTalk converter that lets you add a PC to a LocalTalk network without having to open up the PC. The accompanying Windows software is intelligently written. If the PCs are connected to larger AppleTalk networks that have routers, PC users can select AppleTalk zones to find printers and shared network volumes.

For those whose network will soon grow from a small one to a large one, the Coactive Connector is not a good product, mainly because it uses LocalTalk instead of Ethernet. Although Coactive claims the product works with cross-platform network applications, such as accounting and database programs, I found a network application it didn't work with — WordPerfect Office, cross-platform e-mail server software that requires a PC that supports some sort of file sharing. But creating a server is not what the Coactive Connector is about. For PC users who

have PowerBooks, the Coactive Connector is a far superior alternative to a serial cable for transferring files.

For creating bigger networks in which shared files are stored on PCs, I like Personal MacLAN Connect. Although you have to provide your own network hardware (I used Ethernet cards in the PCs), it's a snap to set up. In fact, using this Windows program is actually *less* complicated than setting up System 7 file sharing on the Mac; it also proved faster for transferring files. You can share any directory on a PC disk or even an entire PC disk itself. A separate print-server program lets Mac users access PC PostScript printers — or even non-PostScript printers, provided the Macs use driver software such as GTD's PowerPrint or Orange Micro's Grappler.

LANTastic for Macintosh mainly offers a way to connect a group of Macs to an already established LANTastic PC network. LANTastic is the most popular PC network product that doesn't require a dedicated file server. It is simpler to set up and administer than a high-end network operating system such as Novell NetWare, but it is limited to networks smaller than the 1,000-node NetWare ones.

LANTastic for Macintosh requires a PC to act as a gateway between the Macs running AppleTalk and the PCs running the NETBIOS protocol. The gateway software is sold by itself (\$599) or with a LocalTalk card (\$799); it also works with Ethernet. Setting up a LANTastic gateway requires some adventures in DOS-land. Fortunately, you can administer the gateway — to make changes to user accounts and network volumes on PCs — from a Mac.

Catching the Wave

The Farallon EtherWave doesn't come with file-sharing software, but it's worthy of note, because it's the easiest Ethernet hardware to set up. The EtherWave is the first twisted-pair, 10BASE-T-compatible Ethernet system that allows daisy chaining, as LocalTalk does. An ordinary twisted-pair Ethernet system requires a hub concentrator to connect each computer, and only one computer can be connected to each hub port. The EtherWave allows as many as eight nodes per chain and can also be plugged in to standard 10BASE-T hubs.

The EtherWave is sold as add-in cards or external connectors for Macs and PCs.

A single connector can connect any three computers, be they Macs, PCs, or a mixture. To complete your multiplatform system, you can run COPSTalk, Personal MacLAN Connect, or Timbuktu.

Plug-and-play, inexpensive, and cross-

platform — now *that's* what I call an information highway. ☐

Technical editor John Rizzo is author of *How Macs Work* and *MacUser Guide to Connectivity*, both from Ziff-Davis Press.

DiskExpress® II

Hard Drive'n Music ... for FREE!

Grab the ticket to transform your Mac into a real performer.

Even if you already own a "garage band" optimizer, you ain't heard nuthin yet. If they gave Grammys for disk optimization, DiskExpress II would sweep every category... increased drive speeds, data safety, detecting drive problems, organization of files by their frequency of use, manual and automatic optimization, and set it and forget it convenience.

Listen to this tune...the cover charge for DiskExpress II is normally \$89.95. This ticket is your chance to experience the best music for your hard drive, DiskExpress II, for FREE! It's our 10th year, and this "concert" for DiskExpress is our way of letting everyone in the Macintosh audience hear about DiskExpress II. This offer is limited to the first 100,000 ticket holders, so grab your ticket, pick up the phone and order your free copy today. Call

1-800-378-0431
Department I
Fax 713-353-9868

There is a non-refundable \$7.95 shipping and handling charge. Have your credit card ready: Visa/MasterCard accepted. One copy per ticket holder only. Offer only available to U.S. & Canadian addresses. Canadians add an additional \$2.00. Alsoft, Inc. is not responsible for any customs duties on Canadian orders. U.S. customers wishing to pay by mail may send check or money order for \$7.95 (TX residents add 7.25% tax) to: Alsoft, Inc., P.O. Box 927, Spring, TX 77383-0927. Offer subject to change without notice. All product names mentioned herein are trademarks of their respective companies. © 1993 Alsoft, Inc.

THE UTILITY COMPANY
ALSOFT

ADMITTANCE 0.00 LIMITED SEATING \$ PRICE & FOR SEATS 0.00

DANN P BRAMHALL

ALSOFT PRESENTS
DISKEXPRESS-II
SPECIAL GUEST
DISKCHECK
HARD DRIVE CONCERT SERIES
OPTIMIZER ARENA

"RAIN OR SHINE"
SAT DEC 25, 1993 7:95PM

0.00 LIMITED SEATING

COMP DE2 714 FRITROW DE-

ADMITTANCE 0.00

DE2 FRIT

CIRCLE 58 ON READER SERVICE CARD.

"HOW I DISCOVERED QUICKKEYS™ AND SAVED THE EARTH"

Introducing
**QuickKeys
3.0**

It all started last June

here at Earth Lovers Landscaping, when

I discovered money doesn't grow on trees. So I went digging for ways to save money and make the Earth a better, more profitable place. Which is

how I found

QuickKeys. With QuickKeys I have replaced repetitive tasks I perform all day - every day - with a

single keystroke or a mouse

click. QuickKeys allows me to plant lots of time-saving and money-saving shortcuts directly into my business.

"Earth Lovers Landscaping" is a whopping 22 keystrokes. QuickKeys can save one week a year by typing it in just one keystroke.



When it's time to fax Earth Lover's designs or quotes to customers, they use QuickKeys to switch from printer to fax modem in one quick step, saving 20-25 seconds each time - that's 2.5 days a year.



*Time savings are all based on a 10-person office.

Earth Lovers' employees can launch applications with one keystroke, saving 5-10 seconds every time, or 2.5 weeks a year.



Test Drive QuickKeys for FREE

No matter what business you're in, QuickKeys will make you and your company more productive and more profitable. And with the FREE QuickKeys Test Drive you can start to benefit today. Just head to your nearest reseller and ask for the QuickKeys Test Drive. Or call toll free, 1-800-523-7638 and ask for Dept. CE318.



CE SOFTWARE

Improving your environment is our business.



QuickKeys can instantly change control panel

settings. Each time Earth Lover's landscape designers change the number of screen colors displayed, they save 25-30 seconds. This one shortcut adds up to a savings of three days a year.

Also available for DOS and Windows™ as ProKey.™



POWER TOOLS

Super battery power: If you don't mind lugging around a few extra pounds with your PowerBook, you can now work as much as five times as long on a single charge as you can with a standard internal



battery. The latest entrants in the super-battery stakes are the Technöggin PowerPlates, three battery products, two of which fit under your PowerBook and work in

conjunction with your PowerBook's internal battery. According to Technöggin, the PowerPlate 5x (\$299.95) lets you work **four to five times** as long on a single charge as you can with the internal battery and the PowerPlate 3x (\$239.95) lets you work three times as long (each attaches to the underside of your PowerBook with fastener pads). The PowerPlate Mini 3 (\$169.95) is a stand-alone model that also lets you work as much as three times as long. 800-305-7936 or 513-321-1777.

Command lines: With version 3.0 of CE Software's QuicKeys 2 (\$169), the macro-creation tool that lets you automate hundreds of mundane tasks, you can tell your AV Mac what to do by using **voice commands to trigger macros**. For those who don't have the latest Macs, version 3.0 has other new features too, including a revamped interface, AppleScript support, and more-powerful Sequence macros. 515-221-1801.

Help! Buying a software package is easy, but often using it isn't. If you use Claris products, take note that the company has introduced a **three-tiered tech-support** program called the Support Portfolio, which caters

not just to large companies with thousands of employees but also to single-person home businesses. Ranging in price from \$129 to \$3,999 per year, the program offers priority tech-support phone and fax lines, technical documentation, troubleshooting manuals, and access to tech-support databases. 408-727-8227.

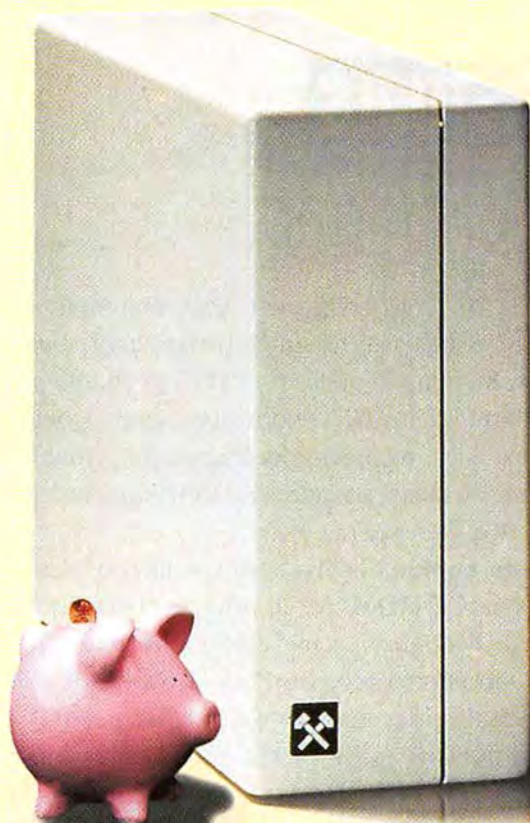
Power books: Finally, a book worthy of reproduction on CD-ROM! All 20 volumes of the *Oxford English Dictionary*, second edition, are now available from Oxford University Press on one CD-ROM. At \$895, the price may seem a little steep, but it's only a third the price of the bound edition and takes up less shelf space. 212-679-7300. *

When multimedia and desktop video made it onto the cover of *Time* magazine earlier this year, we knew a revolution was finally happening. If you're thinking of jumping on the **multimedia bandwagon**, check out the *MacWEEK Guide to Desktop Video* (\$34.95), by former *MacWEEK* editor Erik Holsinger. This book from Ziff-Davis Press consists of primers in video and Mac basics and includes a CD-ROM containing tutorials, software demos, clip art, QuickTime movies, and more. 800-688-0448 or 510-601-2099. * Want to find out what makes your Macintosh tick? Ziff-Davis Press' *How Macs Work* (\$24.95), by *MacUser* technical editor John Rizzo and technical artist K. Daniel Clark, is an **illustrated guide to the Mac**.

Covering everything from the CPU and memory to AppleTalk networks to desktop publishing, *How Macs Work* can also be used in the classroom. *



By Victoria von Biel



Good things come in small packages.

Introducing the Pockethammer525FMF Fast SCSI-2 Drive

Hammer PremiumService includes 48-hour Turnaround and Free Data Recovery.



Pockethammer525FMF

9ms seek time
10MB/sec Fast SCSI-2 burst transfer rate
6300 RPM spindle rotation

hammer1000FMF

9.5ms seek time
10MB/sec Fast SCSI-2 burst transfer rate
5400 RPM spindle rotation

Introducing the extraordinarily powerful, portable, and highly affordable Pockethammer525FMF™. It's one of the fastest drives Macworld magazine ever tested, so fast it earned Macworld's Editor's Choice award for the mid-capacity drive with the best overall quality. Like its big brother, the hammer1000FMF, it works with any Macintosh, Quadra, or Centris (an internal version works with most models). And because it's a Hammer® you'll enjoy the quality and performance you've come to expect from FWB®—Hammer PremiumService™, a two year warranty, and our advanced Hard Disk ToolKit™ SCSI utility software for unparalleled control, security, and versatility.

So if you've been thinking you'd have to make a tradeoff or pay a bundle to get the very best in a 500MB hard drive, think again, and call FWB today.



Hard Disk ToolKit



Best drives over 200MB



Pockethammer525FMF



MacUser Eddy Award DEC DSP3105 mechanism (used in hammer1000FMF)



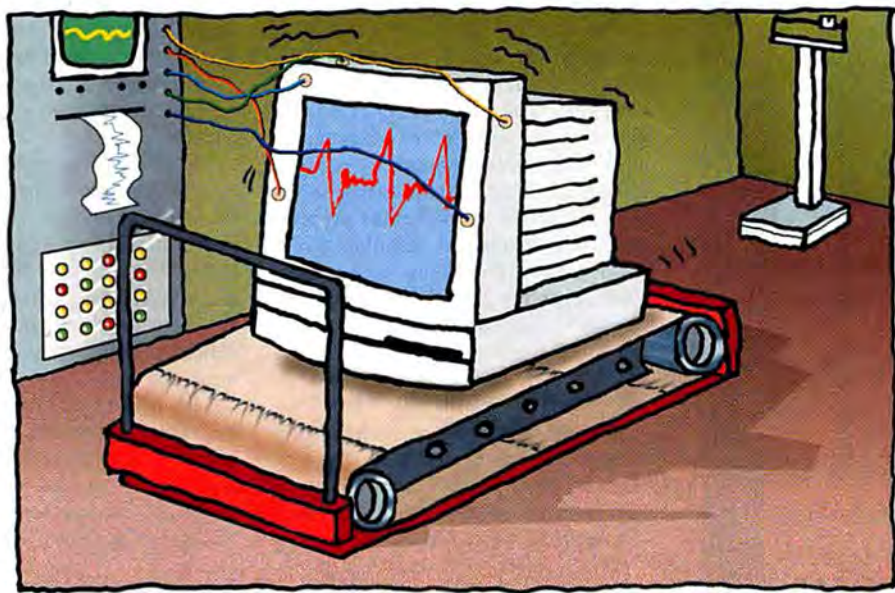
hammer1000FMF: twice the capacity but not twice the price.

The Pockethammer525FMF and hammer1000FMF are available exclusively at authorized Hammer dealers worldwide. For more information and the name of the Hammer dealer nearest you, call FWB at (415) 474-8055, or fax us at (415) 775-2125.



HAMMER

Mac Fitness Tests



*Diagnostic software can give you a better feel for your Mac,
but it won't make you a certified technician.*

By Craig Danuloff

It's a recurring dream: My Mac crashes or begins to cough and sputter, so I insert the Guru on a Disk floppy and restart. The program examines my hardware and software and reports that one of two conditions could be causing the problem. First, the boot blocks on my hard disk are corrupted. Second, the SIMM in the first slot on bank A of the logic board is loose. To correct these problems, Guru suggests I reinstall my system software and reseal the SIMM. Guru also informs me that a new version of my word-processing program has been released (and lists the vendor's phone number) and that my Mac's performance has suffered since I added a CD-ROM drive but that a higher-quality SCSI cable would improve performance significantly. Pretty slick!

Unfortunately, Guru on a Disk doesn't exist, although several Guruesque products have recently become available. Programs such as Maxa's Snooper, MicroMat's MacEKG, Apple's MacCheck and Disk First Aid, and Polybus' Peace of Mind address your hardware-diagnostic needs, and the likes of Technosys' Help!, Maxa's Alert, and Apple's Compatibility Checker tackle your software troubles.

Hardware Diagnostics

Despite their common purpose, hardware-diagnostic tools vary significantly in their features. Each product analyzes various components of your Mac and its peripherals (see Figure 1), but here the similarities end. Some of them perform

sophisticated testing and deliver detailed reports; others perform low-level diagnostics and give little feedback.

There are at least three reasons why you should proceed with caution when using such programs:

! **Many of the problems that are plaguing your hardware will also affect the diagnostic software.** A dead ADB chip, connector, keyboard, or mouse makes it impossible to use any diagnostic program. Likewise, SCSI and floppy-drive problems can hinder program performance, and bad RAM or processor chips can prevent you from restarting your Mac or running any software at all.

! **With few exceptions, computer components or peripherals do not fail gradually — they fail instantly.** So even though you *can* run a diagnostic program periodically to detect potential problems, a diagnostic check performed the second before a failure occurs will report that all is well and will not predict imminent failure.

! **Hardware-diagnostic tools point out problems but don't offer solutions.** Even if a diagnostic tool accurately pinpoints a problem component, what good is knowing which component has failed if you don't know how to repair it? So unless you're willing to pick up a soldering iron and fiddle with capacitors, you still face a trip to a service technician.

MACFRIENDS RATED

BEST BUY

Bank on
the value of the
Centris 610!

THE CENTRIS 610

Now you can afford the super fast
040 power you need for your home,
business or school and it's easy to
add a CD ROM or SyQuest drive
for additional storage space.

Centris 610
\$98/mo.
36/10%
Total Pkg. Price \$2688

This leased
system includes:

- Centris 610
- 8 MB RAM
- 160MB HD
- 14" Color Monitor
- Norton Utilities
- Extended Keyboard w/Quickkeys Light

Every Mac is
CUSTOM
CONFIGURED
especially
for you!Organize
your life the
smart way with
a Newton

Newton
Message Pad™

- BASIC
- COMMUNICATIONS
- PROFESSIONAL

They're here and
we've got 'em!

FAST
delivery to
your door!It's easy to buy
from MacFriends:

1. Call 800-331-1322
toll free.
2. Discuss custom
configuration of your
Mac with a friendly,
system designer.
3. Sit back and relax!

Mac
Friends



VISA

MasterCard

AMERICAN EXPRESS

800 331-1322

Local: (503) 286-9350 24 hour QUICKFAX: (503) 286-8710 #822

CIRCLE 101 ON READER SERVICE CARD.

POWER TOOLS
TECHNIQUES

But hardware-diagnostic programs do have their place. If you use them correctly — in conjunction with books, advice, and your own experience — these products can save you time and energy. If you aren't already an adept Mac troubleshooter, these packages are likely to do little more than instill a false sense of security. You would be better off concentrating on the basics of Mac maintenance and troubleshooting — such as limiting the use of extensions; ensuring that your Mac's SCSI chain is properly cabled and terminated; rebuilding your Desktop file; reinstalling your system software; and picking the brains of your Mac-savvy friends at work, on-line, or at user-group meetings.

Software Troubleshooters

Software problems are easier to solve without diagnostic software than are hardware problems, because you can always restart your Mac with all the extensions turned off (hold down the Shift key

as you restart). At this point, it should be possible to track down conflicts among extensions, applications, and your system software. You can also use a software-diagnostic program such as Compatibility Checker (available on-line in ZiffNet/Mac's Download & Support Forum; filename CCHECK.SIT) or Help!, which tell you if your software is outdated too.

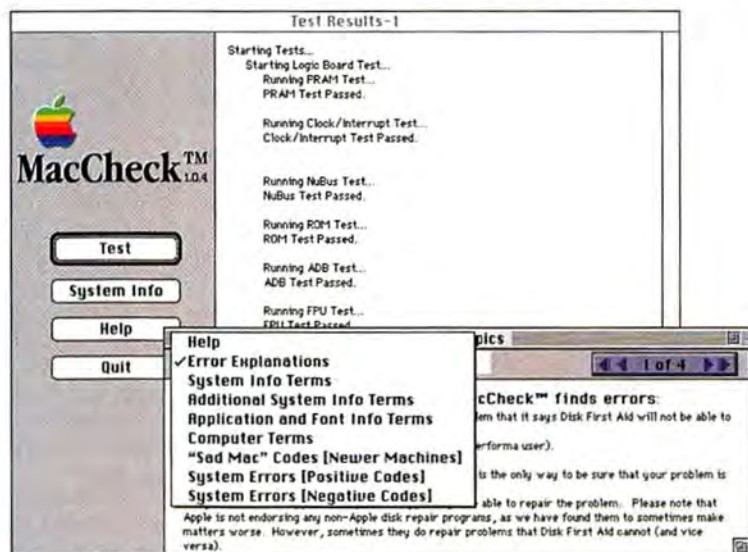
To test for software incompatibilities, current diagnostic tools rely on their own databases of known problems and software information. These programs examine your system software, extensions, and applications; search their databases for problems that match your system's condition; and generate a report (see Figure 2).

Maintaining a complete and accurate database of software incompatibilities and version numbers is difficult, however. And — as users of Apple's Compatibility Checker found out after upgrading to System 7 — an incomplete

Apple's Free Diagnostic Utilities

Searching for a good diagnostic utility? Look no further than Apple's Software Utility Update, available on-line in Library 14 of ZiffNet/Mac's Download & Support Forum (SOUTUP.SIT). This update contains several utilities, including Disk First Aid 7.2 and MacCheck, a diagnostic tool developed by Apple and one of its best-kept secrets. Here's how to use these utilities effectively:

• **MacCheck's profiles.** Launching MacCheck is slow. Unlike most Mac applications, MacCheck makes you wait about five minutes while it polls the characteristics of your system, including the logic board, the peripherals, and the



When Apple's diagnostic utility MacCheck reports a problem, you can find out what to do next via its pop-up Help menu.

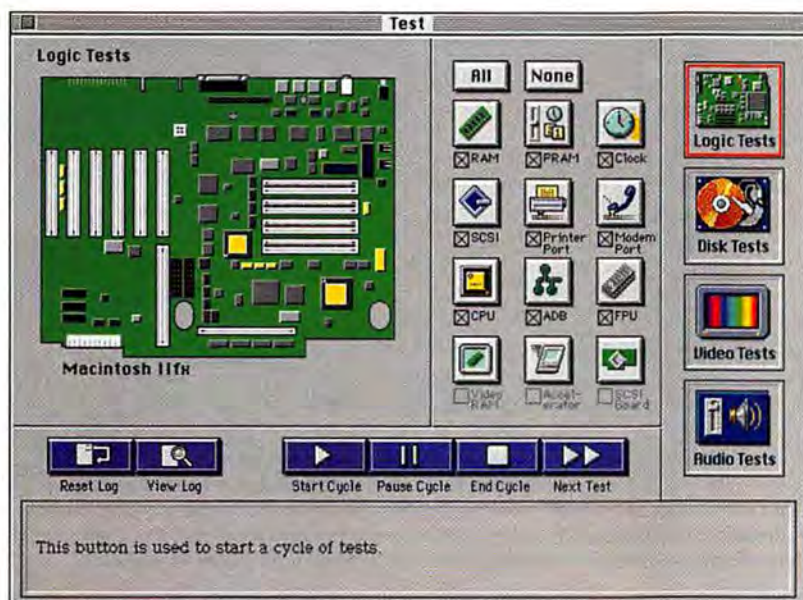


Figure 1: Diagnostic programs usually can't repair any of the hardware ills they find, but they can tell you how your Mac is performing and clue you in to possible areas of concern.

software installed on your disks. Once the examination is complete, you can click on the System Info button to view a report on MacCheck's general findings. For a more detailed report, you can select Additional System Info or Application and Font Info from the Windows menu.

MacCheck's report tells you whether your Mac has a coprocessor, which ROM version it's running, which extensions are enabled and which are disabled, and which of your applications are not 32-bit clean. MacCheck also looks for multiple copies of your System Folder and tells you their locations.

• **MacCheck's tests.** Once you've studied the report, you can click on the Test button and MacCheck will scan your Mac for potential problems. MacCheck examines most logic-board components (except for RAM) and your directory files and looks for corrupted System and Finder files. Unfortunately, it doesn't let you select a specific test, so you must sit through a complete system diagnosis. When the testing phase is complete, MacCheck lists any problems or potential problems it has found.

• **MacCheck's help.** Like most Mac utilities, MacCheck cannot perform repairs, but it does suggest possible solutions, which are listed on the Help menu. The Help menu covers topics ranging from a glossary of basic computer terms to a listing of sad-Mac and system-error codes. For specific problem-solving advice, select Error Explanations.

• **Disk First Aid.** You can repair many Mac problems MacCheck encounters by using its companion utility, Disk First Aid. After launching Disk First Aid, select the disk you want to repair and click on the Repair button. Disk First Aid does the rest. Unfortunately, Disk First Aid cannot repair the current startup disk or the disk from which it was launched, so you must restart your Mac with a different startup disk before launching Disk First Aid.

Once the Disk First Aid repair phase is complete, run MacCheck to see whether the problem has indeed been corrected. If not, MacCheck's Help feature can suggest an alternative course of action.

Unlike more-sophisticated utilities such as Help! and Alert, MacCheck cannot identify specific software conflicts. Nor does MacCheck perform extensive hardware testing, as do programs such as Snooper and MacEKG. But for the price, it's a good place to start.

— Ted Landau

why waste money, let alone ports or slots? Especially when Movie Movie offers more precise audio and video synchronization. Movie Movie incorporates the latest digital video technology from Sony giving you superior image quality and improved frame rates for more lifelike action. It also lets you display and capture video in a window as large as 640 x 480. So turn off the SONY Spigot, and turn on the most complete QuickTime solution. Call for Movie Movie, the video card that looks as good as it sounds. Phone: 510-770-0100 Fax: 510-770-2640. 1-800-845-8086, x 262



THE EYES AND EARS OF MULTIMEDIA

Only MOVIE MOVIE lets your QuickTime Movies LOOK and SOUND this good for under \$350.

Movie Movie[®] by Sigma Designs[®] gives you bigger, sharper, and smoother QuickTime[®] movies than VideoSpigot[®]. It also gives you realistic sound. All in a single-slot solution for just \$349. You could use a separate sound device with VideoSpigot, but

	Movie Movie	VideoSpigot	SBP	SBP
QuickTime 1.5	✓	✓	✓	✓
QuickTime 2.0	✓	✓	✓	✓
QuickTime 2.5	✓	✓	✓	✓
QuickTime 3.0	✓	✓	✓	✓
QuickTime 3.5	✓	✓	✓	✓
QuickTime 4.0	✓	✓	✓	✓
QuickTime 4.5	✓	✓	✓	✓
QuickTime 5.0	✓	✓	✓	✓
QuickTime 5.5	✓	✓	✓	✓
QuickTime 6.0	✓	✓	✓	✓
QuickTime 6.5	✓	✓	✓	✓
QuickTime 7.0	✓	✓	✓	✓
QuickTime 7.5	✓	✓	✓	✓
QuickTime 8.0	✓	✓	✓	✓
QuickTime 8.5	✓	✓	✓	✓
QuickTime 9.0	✓	✓	✓	✓
QuickTime 9.5	✓	✓	✓	✓
QuickTime 10.0	✓	✓	✓	✓
QuickTime 10.5	✓	✓	✓	✓
QuickTime 11.0	✓	✓	✓	✓
QuickTime 11.5	✓	✓	✓	✓
QuickTime 12.0	✓	✓	✓	✓
QuickTime 12.5	✓	✓	✓	✓
QuickTime 13.0	✓	✓	✓	✓
QuickTime 13.5	✓	✓	✓	✓
QuickTime 14.0	✓	✓	✓	✓
QuickTime 14.5	✓	✓	✓	✓
QuickTime 15.0	✓	✓	✓	✓
QuickTime 15.5	✓	✓	✓	✓
QuickTime 16.0	✓	✓	✓	✓
QuickTime 16.5	✓	✓	✓	✓
QuickTime 17.0	✓	✓	✓	✓
QuickTime 17.5	✓	✓	✓	✓
QuickTime 18.0	✓	✓	✓	✓
QuickTime 18.5	✓	✓	✓	✓
QuickTime 19.0	✓	✓	✓	✓
QuickTime 19.5	✓	✓	✓	✓
QuickTime 20.0	✓	✓	✓	✓
QuickTime 20.5	✓	✓	✓	✓
QuickTime 21.0	✓	✓	✓	✓
QuickTime 21.5	✓	✓	✓	✓
QuickTime 22.0	✓	✓	✓	✓
QuickTime 22.5	✓	✓	✓	✓
QuickTime 23.0	✓	✓	✓	✓
QuickTime 23.5	✓	✓	✓	✓
QuickTime 24.0	✓	✓	✓	✓
QuickTime 24.5	✓	✓	✓	✓
QuickTime 25.0	✓	✓	✓	✓
QuickTime 25.5	✓	✓	✓	✓
QuickTime 26.0	✓	✓	✓	✓
QuickTime 26.5	✓	✓	✓	✓
QuickTime 27.0	✓	✓	✓	✓
QuickTime 27.5	✓	✓	✓	✓
QuickTime 28.0	✓	✓	✓	✓
QuickTime 28.5	✓	✓	✓	✓
QuickTime 29.0	✓	✓	✓	✓
QuickTime 29.5	✓	✓	✓	✓
QuickTime 30.0	✓	✓	✓	✓
QuickTime 30.5	✓	✓	✓	✓
QuickTime 31.0	✓	✓	✓	✓
QuickTime 31.5	✓	✓	✓	✓
QuickTime 32.0	✓	✓	✓	✓
QuickTime 32.5	✓	✓	✓	✓
QuickTime 33.0	✓	✓	✓	✓
QuickTime 33.5	✓	✓	✓	✓
QuickTime 34.0	✓	✓	✓	✓
QuickTime 34.5	✓	✓	✓	✓
QuickTime 35.0	✓	✓	✓	✓
QuickTime 35.5	✓	✓	✓	✓
QuickTime 36.0	✓	✓	✓	✓
QuickTime 36.5	✓	✓	✓	✓
QuickTime 37.0	✓	✓	✓	✓
QuickTime 37.5	✓	✓	✓	✓
QuickTime 38.0	✓	✓	✓	✓
QuickTime 38.5	✓	✓	✓	✓
QuickTime 39.0	✓	✓	✓	✓
QuickTime 39.5	✓	✓	✓	✓
QuickTime 40.0	✓	✓	✓	✓
QuickTime 40.5	✓	✓	✓	✓
QuickTime 41.0	✓	✓	✓	✓
QuickTime 41.5	✓	✓	✓	✓
QuickTime 42.0	✓	✓	✓	✓
QuickTime 42.5	✓	✓	✓	✓
QuickTime 43.0	✓	✓	✓	✓
QuickTime 43.5	✓	✓	✓	✓
QuickTime 44.0	✓	✓	✓	✓
QuickTime 44.5	✓	✓	✓	✓
QuickTime 45.0	✓	✓	✓	✓
QuickTime 45.5	✓	✓	✓	✓
QuickTime 46.0	✓	✓	✓	✓
QuickTime 46.5	✓	✓	✓	✓
QuickTime 47.0	✓	✓	✓	✓
QuickTime 47.5	✓	✓	✓	✓
QuickTime 48.0	✓	✓	✓	✓
QuickTime 48.5	✓	✓	✓	✓
QuickTime 49.0	✓	✓	✓	✓
QuickTime 49.5	✓	✓	✓	✓
QuickTime 50.0	✓	✓	✓	✓



© 1993 Sigma Designs, Inc. The Sigma Designs logo is a registered trademark, and the Movie Movie logo is a trademark of Sigma Designs, Inc. All other trademarks are the property of their respective owners.

CIRCLE 54 ON READER SERVICE CARD.

POWER TOOLS TECHNIQUES

problem database in a diagnostic utility can result in incomplete and unreliable reports.

Of the current crop of software-diagnostic utilities, Help! contains the most complete problem database. Still, Help! was unable to verify the correct versions of more than 50 percent of the extensions and applications on my hard disk. Not surprisingly, shareware utilities are the most neglected, but Help! listed many commercial applications from major developers and even some extensions from Apple as unknown. Help!'s competitors, Alert and Compatibility Checker 2.0, did even worse. Before you buy a diagnostic program, find out how often the problem database is updated and how.

Clearly, none of the currently available products is the Guru package of my dreams. But that doesn't mean they don't deserve a place in your troubleshooting toolbox. These packages do perform tests and provide valuable feedback — but it is critical to keep in mind that the tests are not comprehensive and that the

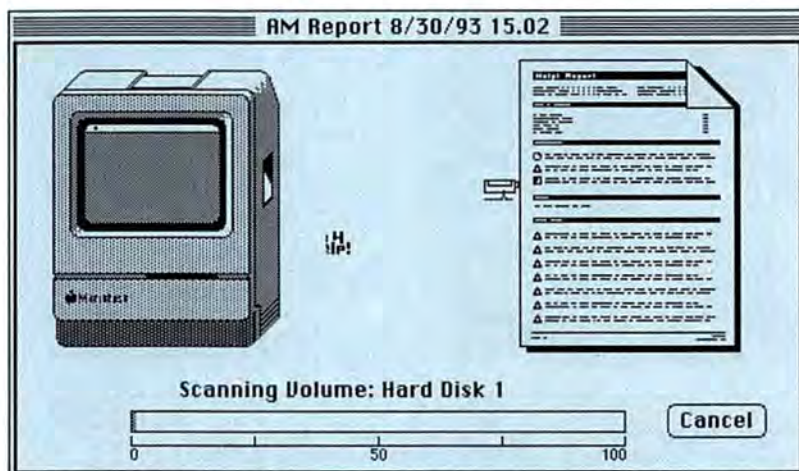


Figure 2: You can find out if you have software conflicts or outdated versions of your favorite programs by using a software-diagnostic utility such as Teknosys' Help! Before buying, find out how often the product's database is updated.

results are not totally accurate. You would be better served using these packages to complement your own solid troubleshooting skills and understanding of

Macintosh hardware and software.

Craig Danuloff is the Seattle-based author of *The System 7 Book*.

HOW TO FIND...

True Love

True Love (or any other file or application) isn't hard to find when you use **DiskTop™**. DiskTop makes it easier to find, copy, move and launch files and applications. It's a must for any Mac with a hard drive. You can find files you need long after you've forgotten their names—anywhere—on drives, CDs, networks, cartridges and more. Search by name, partial name, date created or modified, type, size, creator or combinations. Retain a list of found items and launch, copy, move, rename or delete them. It's faster and smarter than Apple's "find" routine. Never lose important files again!

Use DT Launch, included, to create a menu with programs or files that you can launch in an instant, anytime, anywhere. DiskTop is ideal for power users or novices alike.

Find Criteria

<input checked="" type="checkbox"/> Name	contains	True Love
<input checked="" type="checkbox"/> Type	is	APPL
<input checked="" type="checkbox"/> Creator	is	NTTS
<input checked="" type="checkbox"/> Created	1/20/93 to 9/20/93	
<input checked="" type="checkbox"/> Modified	1/20/93 to 9/20/93	
<input checked="" type="checkbox"/> Size	46 K to 100 K	

Select Extended File Search: ☒ Good ☐ NoDrive

Buttons: Find, Where, Replace, Retain, Append to Retain, Go to, Open, Define, Cancel

Got a Mac? You need DiskTop—the international award-winning file management tool.

Get the scoop on DiskTop and other PrairieSoft products. See your local retailer or call us at 515.225.3720.

© 1993 PrairieSoft, Inc. All rights reserved. DiskTop is a registered trademark of PrairieSoft, Inc. All other trademarks are the property of their respective owners.

CIRCLE 11 ON READER SERVICE CARD.

GIVE FIVE.

A GOAL THAT REALLY COUNTS

Whatever causes you're giving to now, set a goal to increase your giving to a level that will make a permanent and positive difference. Give Five - 5 hours a week and 5% of your income. The rewards will make you feel like a winner every day of your life. For more information, call 1-800-55-GIVE-5.

A Public Service of This Publication

Five hours a week and five percent of your income.

Now You Can Select and Actually Use Any PC File on Your Mac.



MacLinkPlus 7.5,
Now With Over 1000
Mac-PC Translations.

With more than 1,000 translation options, our family of products lets you use virtually any file, in any application. With just a double click, get fast, accurate file conversion between the most popular Mac and PC word processing, graphics, spreadsheet and database applications—with all formatting intact!

1. Open & Edit Files, Even Without The Application.

MacLinkPlus™ guarantees an end to file compatibility problems, thanks to our vast library of translators and Macintosh® Easy Open extension from Apple®. To open a Mac or PC file without the original application, just double click on it. You'll see a list of applications that can open your file with the help of MacLinkPlus translation. Easily. Reliably.



2. Complements Existing Network Software.

If your Mac is on a network, MacLinkPlus converts the files you've already moved with your Mac/PC networking software—the final step in true cross-platform compatibility. For networks, large or small, MacLinkPlus is now available in multi-packs and site licenses. Compatibility and affordability. What more could you ask for?



3. Only MacLinkPlus Has The Complete Solution.

	Macintosh PC Exchange	DOS Mounter	Access PC	MacLinkPlus	Acrobat	Common Ground	Replica
Mounts DOS Disks	✓	✓		✓*			
Can View/Print PC Files				✓*	✓†	✓†	✓†
Translates Word Processors			✓	✓			
Translates Graphics			✓	✓			
Translates Spreadsheets			✓	✓			
Translates Databases			✓	✓			
Can Connect Mac to PC via Cable or Modem			✓	✓			

* Includes Macintosh PC Exchange. † File must be in special format, no editing capability.

Call 800-780-1466 For More Information.

DATAVIZ™

THE DATABRIDGE SPECIALISTS

Circle 163 on Reader Service Card for General Information.

Circle 162 on Reader Service Card for Multipack Pricing and General Information.

All product names are trademarks or registered trademarks of their respective holders. ©1993 DataViz, Inc. 55 Corporate Drive, Trumbull, CT 06611 (203) 268-0030 FAX (203) 268-4345

You don't talk to your mother the same

way you talk to your buddies. (Better not, for your sake.) That nice polite talk is perfect for Sunday dinners. Or when you're asking for money.

That's why you've got street talk. Small talk. Back talk. Coffee talk. Baby talk. And - even when you're not saying a word - body talk, which has absolutely no regard for syntax and grammar. Custom languages made to order.

The same with the new WordPerfect® Mac 3.0. Seventy-eight customizable features let you say and do what you want, how you want, when you want, making it the most personalized, most Maccompatible® word processor anywhere. *Capisci?*

Free Test Drive The new Mac 3.0 (800) 526-2296

WordPerfect
macintosh



The most complete hand scanning system you can find in a box. Or a store. Or in town. Or in the world for that matter.



Quickly scan text and images into your computer with the OmniScan 256 grayscale scanner. OmniScan produces true 8-bit grayscale at 400 dpi and features advanced illumination technology and solid tracking for the most accurate scanning.



With OmniScan, you can send, receive, OCR, and compress faxes right from your computer using Caere's FaxMaster technology. All you need is a fax modem. OmniScan does the rest.



Scan directly into any application with OmniPage Direct. Direct employs Caere's AnyPage technology to provide the most accurate OCR possible. Font sizes, styles, and formats are no problem for OmniScan Direct's OCR.



Image Assistant GS makes grayscale image editing and enhancement a snap. The "Assist Mode" displays sample image variations right on your computer screen. All you have to do is choose the one that works best for you. And to help you add your own personal touch to images, Image Assistant GS features a complete set of editing tools and features.

Caere's full integration of grayscale scanning, OCR, image editing, and fax capabilities make OmniScan the most complete hand scanning solution found anywhere. Now that you have discovered it, here's how to locate the dealer nearest you:

1-800-535-SCAN.

Featured at these resellers:

MICRO CENTER
THE COMPUTER DEPARTMENT STORE

MacWAREHOUSE

COMPUTER CITY
SUPERCENTER

caere

Caere and OmniScan are registered trademarks of Caere Corporation. The Caere logo, OmniPage Direct, AnyPage, Image Assistant, and FaxMaster are trademarks of Caere Corporation. © 1993. All rights reserved.

CIRCLE 120 ON READER SERVICE CARD.

For Your Information.

How to Buy

Mac Audio Tools

■ If you own a Mac with a built-in **microphone** or microphone-input port (a Performa, Classic II, Color Classic, LC, Ilvi, Ilvx, Centris, Quadra, docked PowerBook Duo, or any PowerBook except the PowerBook 100), you have all the tools you need to get digital audio into your computer. Simply open HyperCard 2.1's Audio palette, or use the Sound control panel, and start recording.

■ A shareware alternative that provides you with **more editing capabilities** is Sample Editor, available from user groups and on-line services such as CompuServe and America Online. ZiffNet/Mac members can download this and all of the shareware packages mentioned in this article from the MacUser Forum, under Download & Support, Library 1. The filename for Sample Editor is SAMPED.SEA. AudioShop, from Opcode (415-856-3333), and SoundEdit Pro, from Macromedia (415-252-2000), are two commercial packages that provide more-advanced sound-editing features.

■ If your Mac doesn't have a built-in microphone or microphone-input port, you can use a **serial input device** such as the Macromedia MacRecorder, which includes SoundEdit Pro software.

■ Once you've gotten sounds onto your hard disk, you can transform them into **alert sounds**. These are sounds



Using the Mac's built-in sound capabilities can make your presentations more polished and your Mac more fun. Here's what you need to know to get started with sound.

that play when you perform functions such as deleting e-mail messages or clicking outside a modal dialog box (a message window on your screen that you must respond to before performing any other function on your Mac). To convert sounds, try shareware products such as David Lambert's SndConverter Pro (filename SNDPRO.SIT) or Riccardo Ettore's Sound Mover (filename SOUND.M.SEA).

■ If you want **near-CD-quality sound**, be prepared to make a large cash investment. You'll need a digital-audio card that gives you 16-bit sound, such as the AudioMedia II (\$1,295), from Digidesign (415-688-0600), and a high-capacity hard drive to handle the gigantic sound files that digital-audio cards generate. You don't need a 16-bit card if you own one of

the new AV Macs; they come with 16-bit-sound capability built in.

■ If you want to include music in your presentations but can't afford a digital-audio card, try using a **General MIDI (GM) module**, an external box that makes playing sophisticated sound on your Mac simple. Modules start at \$399 each and save you from buying a high-capacity hard drive—the MIDI files a module uses are much smaller than those generated by digital-audio cards, so you don't need a high-capacity hard drive.

■ You don't even have to be able to play a note of music to use GM modules. Instead of inputting sound with a keyboard, you can play and adjust already-existing sequences (songs or sequences of sounds). You can find **commercial sequences**

for GM modules at most music stores, or you can buy them from vendors such as Opcode and Trycho Tunes (714-696-3577). Expect to pay \$7 to \$10 per individual sequence, \$20 or more for collections. Look for advertisements in such magazines as *Keyboard* and *Electronic Musician*.

■ GM **standardizes sound** location in a way that makes sequences play alike no matter which GM module you use: The piano will always be a piano, not a tuba or a flute, for example. There's still some variation in sound, however, because each manufacturer of GM modules interprets sounds differently. Whereas a piano sound is fairly similar from module to module, some sounds have names such as "Synth Pad 2 (warm)" that leave the character of the sound entirely up to the manufacturer.

■ GM modules connect to your Macintosh through one of the serial ports, either the printer or the modem one. To avoid sacrificing one of those ports, buy a module with a **serial through-port**, to which you can connect other serial devices.

■ For GM modules that do not have a serial through-port, you can get a **serial switch box** for \$20 from most electronics stores. Another option is to purchase a **switchable MIDI interface** (starting at \$120), an external box with a serial through-port that plugs

By Christopher Breen



ClickChange

i gotta BE me.

Express the real you with ClickChange's **HUGE** natural selection of colorful windows, buttons, desktop patterns, menubars, scrollbars, and cursors. So go **ape** for only \$89.95. Call Dubl-Click Software at **(800) 266-9525**.

ClickTrax™ contains over 4MB of hilarious celebrity impersonations scripted just for common Mac sound events. Just \$49.95.

IconMania™ puts hundreds of fun new desktop file and folder icons just a click-and-drag away. Just \$59.95.

CIRCLE 43 ON READER SERVICE CARD.

POWER TOOLS SHOPPING LIST


in to the modem or printer port on the Mac. A button on the box enables you to switch between music and modem or music and printer. Because it has extra MIDI ports, you can also use the box to connect more than one MIDI device.

■ You can pick up small speakers for personal use from several vendors, including Altec Lansing, Apple, Bose, Koss, and Sony. But if you're planning to give a **large presentation** that requires multiple sound sources, such as MIDI, digital audio, and audio CDs,

If you want near-CD-quality sound, you'll need a digital-audio card for 16-bit sound and a high-capacity hard drive for the gigantic sound files that digital-audio cards generate.

you'll need a small audio mixer and some powered speakers that can handle a hefty load, such as Pattern 100s, from Atlantic Technology (617-762-6300). You'll also need a boxful of adapters from your local electronics store to convert between miniplug, RCA, and ¼-inch jacks.

■ Although you should consider the quality of **bundled software** when you purchase your GM package, the module's sound is more important. You can always purchase better software, but you can never make that acoustic guitar sound less cheesy.

■ For **more information** about sound for the Mac, check out Opcode's Book of MIDI HyperCard stack or Craig Anderton's *MIDI for Musicians* (New York: Amseco Publications, 1986). Christopher Yavelow's *Macworld Music and Sound Bible* (San Mateo, Calif.: IDG Books, 1992) is the most comprehensive book on Mac audio you're likely to find. For product comparisons, consider David M. Rubin's *The Audible Macintosh* (Alameda, Calif.: Sybex, 1992). Search the shelves of computer stores and bookstores for these and other books. 



CRUNCH 1 + 7 = 3 **POWER**

PowerPad™ turns your PowerBook into a numeric powerhouse, with powerful features other key pads can't match:

- Interchangeable "+" and "enter" keys
- New desk accessory, *10Key Tape*, updates the traditional paper tape
- Extra ADB port for adding a mouse or other input device
- 24-inch detachable cable
- 15 function and 4 cursor keys
- Hard cover protects keys

It's the number cruncher's dream. For your nearest PowerPad dealer, call Sophisticated Circuits at (800) 827-4669.

POWERPad

© 1992 Sophisticated Circuits, Inc.
Phone: (206) 485-7979, FAX: (206) 485-7172
PowerPad is a trademark of Sophisticated Circuits.
PowerBook is a registered trademark of Apple Computer, Inc.

CIRCLE 141 ON READER SERVICE CARD.

Buy a drive from a startup company.	Buy a generic drive through the mail.	Buy a drive from a company going out of business.	Buy a drive from a company other than the industry leader.
LOSE A TURN	GO BACK 5 SPACES	RETURN TO START	PAY A FINE

No Contest

The real thing
\$369
 At an unreal retail price

Buying a new drive shouldn't be a game. At least, we don't think so. Sure, we could be like the rest, and sell

you a flimsy drive with slipshod quality at an unbeatable deal. For nearly a decade, we have refused, and still refuse, to compromise our high standards of quality, award-winning product performance and customer service. We realize times are tough, and we want to help you get the product you need at a price you can afford.

That's why we've reduced the cost of the Infinity 40 Turbo drive. With its 20 millisecond average access time, fast data throughput and removable cartridges that hold 44 megabytes of data each, the Infinity 40 Turbo is the most affordable way to meet your storage needs. And, its time-proven reliability gives you the security you need to safely store and transport your most valuable data. We won't compromise our standards, so why should you? Buying a drive from anyone else would be a gamble.



We won't compromise our standards, so why should you?

For a dealer near you call 800. 288. 8754

Peripheral Land Incorporated
 47421 Bayside Parkway • Fremont, California 94538
 510. 657. 2211 or fax 510. 683. 9713

CIRCLE 155 ON READER SERVICE CARD.



MUSE-44

Top Speed, Best Value, Guaranteed.



INCLUDED FREE!

Hard Disk ToolKit Personal Edition

Improve performance and make any drive system T compatible. (Format, partition, initialize, and test any 40 MB hard drive. Replicates drive on optical disk.)

\$79 Value

Outperform Apple's new '040 Macs with the Mobius Speedster for just \$699!

It's the easiest, fastest, and most economical way to get a hot new Mac. Without buying a hot new Mac.

The Mobius Speedster '040 accelerator instantly gives you Quadra performance while letting you keep your investment in your current Macintosh. The 40 MHz Speedster actually outperforms the Quadra 950—even the 25 MHz Speedster runs faster than the Centris 610. And, you won't have to mortgage the house to get the Speedster, with prices beginning at just \$699.

The Speedster's advanced processor-direct design makes it compatible with virtually all of today's most demanding applications. You'll notice the difference right away, even in 24-bit color mode: instant screen redraws in PageMaker™, FreeHand™, and QuarkXPress™; superfast previews with Illustrator™; speedy recalcs in Excel™, and blazing special effects with Photoshop™; a performance boost of up to 800% over an unaccelerated Mac.

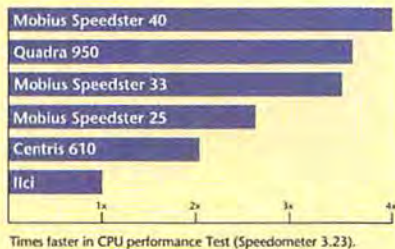
Unlike NuBus alternatives, the Speedster doesn't require that you add expensive memory to the card. With an innovative design that supports almost every Macintosh model, the Speedster offers the widest selection of speed and CPU options, and installs in just ten minutes!

	25MHz	33MHz	40MHz
Speedster	\$699	\$799	
Speedster w/FPU	\$899	\$999	\$1,399

For the Mac IIfx, IIfx, IIfx, IIfx, LC II, Performa 400, 600 Mac II, IIfx, IIfx, and SE/30. Some Macs require a \$49 adapter.

At Mobius, we stand behind you with a 3-year warranty, no-risk guarantee, lifetime trade-up program, and technical support rated "Excellent" by MacWorld Magazine.

So call us today to find out how you can upgrade to top speed, with the best value.



Times faster in CPU performance Test (Speedometer 3.23).

SERVICE & SUPPORT
 Unlimited Toll-free
 Technical Support,
 Free Warranty
 Express Service

ORDER DIRECT
 Mon-Fri. 8am-5pm PST
 Major credit cards
 accepted, Corporate,
 Gov't, and Educational
 POs accepted.

800-800-4334

MOBIUS
 TECHNOLOGIES • INC

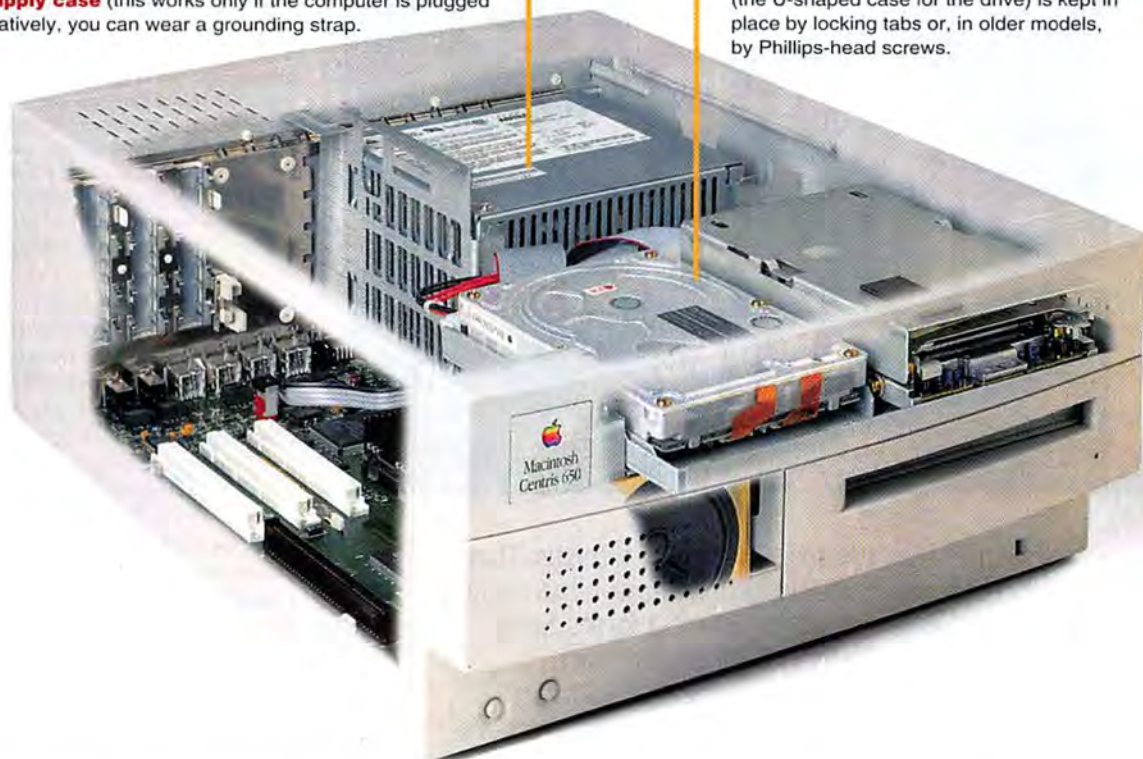
Installing an

Internal Hard Drive

It's easier than you think to install an internal hard drive in your Mac.

One of the few mistakes you can make when installing an internal drive is neglecting to ground yourself first. Before taking the replacement drive out of its antistatic bag or touching anything inside your Macintosh, ground yourself by touching the metal **power-supply case** (this works only if the computer is plugged in). Alternatively, you can wear a grounding strap.

Getting to the internal hard drive in a modular Mac (one without a built-in monitor) is as simple as popping the top. The hard drive usually sits on top (in the Quadra 800, 880AV, 900, and 950, it's in front) of the **drive assembly**. The hard-drive chassis (the U-shaped case for the drive) is kept in place by locking tabs or, in older models, by Phillips-head screws.



Anybody can replace an internal hard drive in a modular Mac (Macs without a built-in monitor, such as the Mac II). All you need is about 15 minutes, a Phillips-head screwdriver, and a few pointers. Although this tutorial focuses on modular Macs, many of these principles apply to compact Macs (such as the Classic) as well.

Even though replacing your internal hard drive is simple, opening the case of a Classic, a PowerBook, or a PowerBook Duo means voiding the warranty, so have a dealer install the drive if the Mac's still under warranty. If you own a PowerBook (even if it's out of warranty), you should probably leave this job to a dealer anyway, because opening the PowerBook case and disconnecting its cables can be a tricky business.

If your new drive is a different size from the one you're

replacing, check with the supplier to see if you need a new chassis bracket (the U-shaped case that holds the drive). It may be included in the price of the drive.

Before you install the replacement drive, make sure you back up your current drive's hard disk. You need to store the data somewhere, be it on a floppy disk, cartridge, external disk, or some other medium, until you transfer it onto the new one.

Start by opening the Mac and grounding yourself by touching the metal power-supply case (or wearing a grounding strap); you can then unplug your Mac from the wall socket. Set the SCSI ID of the replacement drive to 0, so that your Mac boots from that drive's hard disk. Remove the SCSI- and power-cable plugs from the back of the hard drive in your Mac; gently release the locking tabs (or remove the screws); and

By Tom Petaccia

IT HURTS TO BE NUMBER ONE.

37 million Americans suffer from arthritis. That makes it the number one crippling disease in this country. It attacks in over one hundred different forms. Some forms disable. Some disfigure. All of them hurt.

The Arthritis Foundation is the only voluntary health organization fighting arthritis on every front. We sponsor research, self-help programs, and professional and public education.

If you need help, or want to help contact your local chapter or call 1-800-283-7800.



Your Source for Help and Hope ®

POWER TOOLS THE MAC WORKSHOP



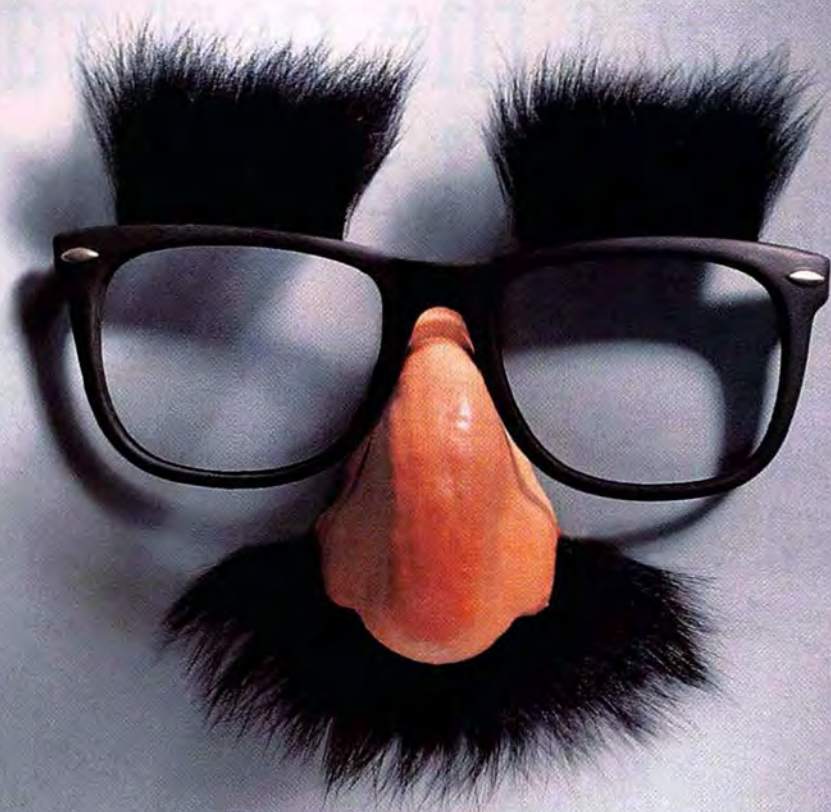
Before you install the internal drive, set its **SCSI ID** to 0 so the Mac will boot from that drive's disk. To set the SCSI ID, locate the drive-select pins (consult diagrams that come with your drive to find them). The first three are usually labeled A0, A1, and A2. If the A0, A1, and A2 pins don't have jumpers (metal or plastic wraps), then the drive is already set to 0. If they do have jumpers, just slip them off.

remove the old drive, still in its metal chassis. Unplug the indicator-light cable if it's plugged in to the front of the drive, and then unscrew the old drive from the chassis. You are now ready to insert the new drive and screw it into the chassis.

At this point, you might want to replace the existing SCSI and power cables attached to the logic board. Apple typically uses aluminum-wire SCSI ribbon cables, which don't conduct as well as copper. If you're lucky, new cables will be included with the drive, but if that's not the case, you can get new copper cables from an electronics or computer store for \$10 to \$15.

The next step is to plug in the indicator-light cable (if applicable) and insert the drive and chassis and screw them back in place, making sure the locking tabs lock (if applicable). Plug the SCSI and power cables in to the hard drive, and put the top of the Mac back on. Once you've transferred your stored data to the new hard disk, you're ready to get back to work.

So what do you do with your old internal drive? One possibility is to rehouse it in an external casing, such as is available from APS Technologies (800-235-3707 or 816-483-6100) and Casa Blanca Works (415-461-2227). For \$85 to \$199, you get what amounts to an extra hard drive, which you can use as a backup or as a spare. ☐



NOW AVAILABLE FOR YOUR MACINTOSH.

Ha-ha just replaced ho-hum. Introducing Now Fun!™, by far the most comprehensive collection of desktop diversions available.

In this one little box you'll get FunPictures with more than forty new patterns and images for your desktop.

FunCursors, with fifty different cursors to customize, animate, and generally liven up your formerly party-pooing cursor.

And FunScreenSavers, which comes with over two dozen anything-but-boring new screensavers. (It also runs any AfterDark™ modules you may already have.)

You'll also get FunColors, a color customizer to make your windows purple, or your menus hot pink.

And if that isn't enough entertainment for you, there's our new sound manager, FunSounds, with over a hundred hilarious sounds to do with as you please.

Whether it's the flush of a toilet when you empty the trash or loud applause every time you type your name.

Now Fun! Because all work and no play makes Jack the kind of guy people avoid at cocktail parties. For more information, call 1-800-237-3611.



**Now
Software**

Q: What's the best value
for your marketing dollar?



A: Reprints, of course!

Dollar for dollar, you just can't beat a reprint of a great review; and there's never been a better time to order. Faster turnaround times and price incentives make this a great time to have your product review or advertisement reprinted. Why not call today? It really makes "cents!"

Contact: Carol Peters, Reprints Manager (212) 503-5447

ZIFF-DAVIS REPRINTS
ONE PARK AVENUE 16th FLOOR NEW YORK NEW YORK 10016



TIP SHEET

Nobody ever said you had to live in Cupertino to be a Macintosh expert. Know-it-alls are everywhere, from Manhattan to Malibu — even in Waldport, Oregon, where we found our own Mac guru, Philip Russell. Each month Phil shares his own tips plus the best from 70-odd Macintosh-user-group (MUG) magazines. But Phil can't do it alone. To all those whose undocumented Mac tip *MacUser* prints, we pay \$25, and the Reader Tip of the Month earns \$100.



Send your tip, together with your name, address, and phone number, to Tip Sheet, c/o *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404.

You can also contribute tips electronically via



ZiffNet/Mac, the on-line service for *MacUser*. Send them to

Gregory Wasson at 72511,36. Be sure to include your full name and mailing address along with the text of the tip.

By Philip Russell

Reader tips compiled by Gregory Wasson

■ Here's how to design better **presentation slides** or transparencies:

- Keep the color scheme consistent throughout.
- Put the good news high in the copy so the audience will notice it first.
- Display your competitors' names in black and yours in color.
- Minimize the number of type styles; have headings in one style, main-body text in another.

● Use 3-D charts with care and only where appropriate, because they may confuse the audience. (Thanks, Jean Mickelson, MadMacNews, Madison, Wisconsin, MUG.)

■ You can copy and paste charts made in **Excel** into drawing programs such as MacDraw. They paste in ungrouped so you can customize each component.

■ Don't mail a floppy disk in a plain envelope. If its shutter gets bent, you can hurt your drive when you insert the disk.

Bubble-pack envelopes are the answer. If you buy them in bulk (500 or so), envelopes for 3.5-inch disks cost less than 12 cents each. Can't use 500? Line up a few buddies, and split an order. Envelopes are available from mail-order office-supply houses.

■ If you still use double spaces between sentences, you can **globally change** double spaces to single spaces, which are what typesetters use. Use the same method to replace double hyphens with proper em dashes (Option-Shift-hyphens).

■ Maybe you've noticed that some programs import certain kinds of **TIFF files** but not others. That's because each vendor felt it necessary to develop its own version of TIFF. PageMaker recognizes more TIFF versions than any other program, because Aldus was a driving force behind the development of TIFF.

■ How do you open documents that **refuse to open**? Use CE Software's DiskTop, the shareware utility FileTyper, or any other utility that lets you change Type and Creator codes. If you suspect the document is a text file, change its Type and Creator codes to MacWrite or Word. Other utilities, such as Now Utilities, also let you convert stubborn files. Just to be safe, make a copy of the document before changing its codes.

You can also try using PageMaker's Place command to import a stubborn file. Then export it to a program you know will work, or at least

copy pieces of the file to the Clipboard and then to the Scrapbook for safekeeping.

■ Do you want to make **slides** of your Mac's screen? Here's one way:

Place a camera on a tripod, use a cable shutter release for steadiness, and shoot at 1/15-second or longer exposure. Use Ektachrome 160 or Kodachrome film and a long lens (200 mm suggested), place a black cloth like a tent over the camera and monitor, and set the exposure two stops either side of your best-guess exposure. Make sure the monitor's screen and the camera are absolutely level with each other.

■ Do you get "Out of memory" messages in MultiFinder under System 6, even when you have lots of available RAM? Try loading your applications in order, from the smallest to the largest. Then if you **need memory** to run another large program, quitting the latest (and largest) program will leave enough space for the new application to run.

■ Zooming in to or out of an image in **HyperCard** looks best when you use the Zoom Close and Zoom Out visual effects. Use Zoom Close to see detail and Zoom Out to see the big picture.

DTP Redraws

The screenshot shows the 'Preferences' dialog box with the 'Layout view' tab selected. The 'Measurement system' is set to 'Inches'. The 'Vertical ruler' is set to 'Inches' with a 'points' field next to it. The 'Greek text below' is set to '9 pixels'. Under 'Guides', 'Front' is selected. Under 'Detailed graphics', 'Normal' is selected. Under 'Show layout problems', 'Loose/tight lines' and 'Keeps violations' are checked. The 'Story view' section shows 'Size' set to '12 points' and 'Font' set to 'Geneva'. 'OK' and 'Cancel' buttons are at the top right.

Slow screen redraws in DTP programs? Go to the Edit menu, select Preferences, and set the greeking to a higher level. You can also increase PageMaker's redraw speed by setting Detailed Graphics in the Preferences dialog box to Normal or Gray Out.

Reader Tips

System 7 Desktop

To keep icons on the desktop even when windows are open, make a Desktop Things folder on your hard disk for all the icons you normally leave on your desktop. To save space, you can set the view to Small Icon, Date, or whatever suits you.

When you switch to the Finder, all of your desktop icons will be brought to the front, and as long as a corner of your Desktop Things folder window is visible, it can even be brought to the top of a stack of windows.

Before you shut down, press Option and select Close All, on the File menu, to close the windows you have left open. Placing an alias of your Desktop Things folder inside your Startup Items folder opens your Desktop Things folder on startup.

Richard Smith
Chicago, IL

QuarkXPress 3.1

Pressing Command-Shift-Q sets the next character you type in Symbol font, and pressing Command-Shift-Z sets it in Zapf Dingbats. After you've typed the character, QuarkXPress will automatically revert to the original typeface.

If you want to jump quickly to the font field of the Measurements palette, press Command-Option-Shift-M.

Doug Stanfield
Bellefonte, PA

Word 5

The Tip Sheet of June '93 (page 203) has the suggestion that changing italic text to plain text makes editing in Word easier. You can do this globally, changing italic to plain bold text, by following these steps:

Select Replace (Command-H), on the Edit menu. Make sure the Find What box is

empty. Choose Character from the Format box located under the Find What box, click on the Italic check box, and click on OK. The word *Italic* will appear below the Find What box.

Repeat the same steps for the Replace With box, only this time click on the Italic box again to remove the check mark and select Bold in the list. The words *Bold; Not Italic* will appear below the Replace With box.

Select Find Next in the dialog box, and Word will find any text in italics. Select Replace, and the same text will appear in bold.

William J. Reynolds
Sioux Falls, SD
[Don't use this tip if your document already contains bold text. — Ed.]

Floppies

When you erase all the files from a floppy disk, sometimes all the free space is not reclaimed (that is, you end up with less than 785K on a double-density disk). To get 785K on a double-density disk or 1,415K on a high-density disk without reformatting it, follow these steps:

1. Delete all the files from the disk by dragging them to the Trash and then choosing Empty Trash from the Special menu. Then create a new folder on the disk.

2. Drag the disk to the Trash. (Do not use the Eject Disk command.)

3. Insert the disk, and hold down the Option and Command keys until a dialog box

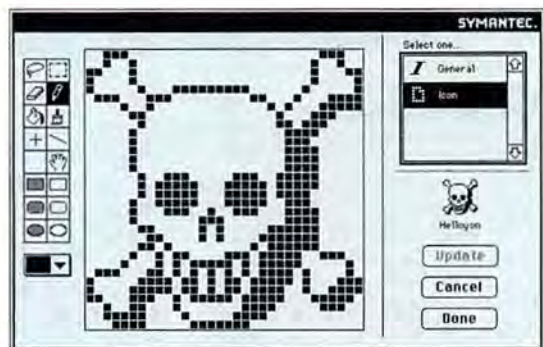
Directory Assistance II

Norton Utilities' Directory Assistance II has a built-in icon editor available under System 7. Here's how to use it:

From any application, select Open or Save. (If Directory Assistance II is installed, the special Open/Save dialog box will appear). In the Open/Save dialog box, select the application, file, folder, or disk of the icon you want to edit. Next, select Get Info from the Tools menu in the dialog box, and select Icon from the scroll box. The item's icon will appear with a standard set of paint tools you can use to modify the icon.

After you have edited and saved the icon, restart your Mac to see the edited icon.

Patrick Houlihan
Greenwood, MS



pops up asking you if you want to rebuild the desktop. Click on OK.

4. Erase the folder by dragging it to the Trash, and notice the extra few K squeezed onto the floppy disk.

David Alten
Houston, TX

Drawing Notes

When you draw something — whether in MacDraw, Canvas, Illustrator, or another drawing program — you usually have to export the drawing to a different format such as PICT or EPS before you can open it in a page-layout

program or word processor.

If you are working on a drawing, make abundant notes and keep them in a text box positioned on the page next to the graphic. This text box might include such information as what the drawing is for, what chapter it goes into, the version number, and whether or not it is finished. When you're ready to export the graphic to PICT or EPS, simply delete the text box first. Be sure to use the Save As command to save the file under a different name.

Bruce Pierson
Bozeman, MT

Tip of the Month: System 7 File Sharing

Looking for an easy, low-cost way to network two Macs? You don't have to spend \$50 on AppleTalk connectors and cable. All you need is System 7 file sharing and a \$15 ImageWriter II-to-Mac Plus/SE printer cable, available from any Mac-product retailer.

Turn off both Macs, and connect the printer cable to the printer port on each Mac. Both Macs should be plugged in to the same power

strip to avoid the ground mismatches that are prevented by real networking cables. Power up both Macs, and turn on AppleTalk and file sharing. Your Macs are now networked.

The only drawback is that you can have only two Macs on the network, but for a temporary situation, this method works just fine.

Keith Veleba
Sandusky, OH

WHERE WERE YOU THE LAST TIME NORTON UPDATED THEIR SOFTWARE?

©1993 Central Point Software. Central Point and MacTools are trademarks of Central Point Software. All other products names are trademarks of their respective holders.



It's been a long time since Norton Utilities really improved its software for the Mac. Too long. Now Central Point Software introduces a newer, faster, smarter Mac utility—new MacTools 3.0. How much smarter is it? It retrieves accidentally trashed files in one step. (With Norton, it takes seventeen.) It continuously checks for disk corruption in the background, so small problems don't become disasters. (Norton doesn't.) MacTools 3.0 also finds and fixes Desktop file damage. (Norton can't.) And unlike Norton, it includes complete anti-virus protection, with network support. But that's just scratching the surface. For a detailed comparison of MacTools 3.0 vs. Norton, call FAXBACK at 1-800-847-8766 and ask for document 97533. For all upgrades, just call 1-800-277-3874. And stop living in the past.

UPGRADE FROM MACTOOLS, NORTON, SAM OR VIREX ONLY \$49.95* 1-800-277-3874

*Upgrade from MacTools, Norton Utilities, SAM or Virex. Offer expires February 28, 1994. Offer good only in U.S. and Canada. Shipping and handling extra.

CENTRAL POINT
CIRCLE 69 ON READER SERVICE CARD.

“I DON'T NEED (tick) YOUR DATA (tick) PROTECTION SOFTWARE (tick). I'VE HAD MY MAC (tick) FOR YEARS AND (tick) IT HASN'T CRASHED (tick) YET.”

Not to alarm you or anything. But if a lot of wishful thinking is all that's standing between you and a Mac meltdown, you may want to check out a more proven method of protection.

We suggest the Norton Utilities for Macintosh v2.0. It both prevents data loss and gives you the most effective data recovery features available. In other words, it's like giving your computer its own personal bomb squad.



Without us, one crash can ruin your whole day.

For starters, let's talk prevention. The Norton Disk Doctor hunts down potential problems and lets you squash them before they become actual nightmares. Plus, Speed Disk defragments files and boosts performance of your hard disk, making data loss less likely in the first place. So far, so good.

Now, the recovery part. Our FileSaver feature keeps a record of vital disk information, which helps



From Peter Norton, the leader in Macintosh utilities.

you rescue files if you happen to lose or delete them. On top of that, you get automatic backup. It's total security like this which has helped Norton Utilities become the best-selling data protection and recovery software in the world.

To learn more, dial FAST FAX 1-800-554-4403 and select option 1, document 411. (For information on easy network installation, choose option 1, document 481.) Better yet, pick up Norton Utilities at your local dealer for about \$149.*

You should probably do it today, though. Before your luck runs out.

**THE NORTON
UTILITIES**
FOR MACINTOSH
SYMANTEC.

*Suggested retail price. Actual price may vary. All names are trademarks of their respective companies. For more information: In Europe, call 31 41-534111. In Australia, call 612-579-6377. In Canada, call 1-800-465-2295. Everywhere else outside U.S., call 408-252-3370. ©1993 Symantec Corporation



HELP FOLDER

Questions, anyone? Here's where to get answers from the experts. Bob LeVitus and Andy Ihnatko are the authors of the best-selling *Dr. Macintosh's Guide to the On-Line Universe*. Andy Ihnatko is also a longtime activist with BCS•Mac. They're ready to answer your questions

about everything Macintosh.

Write to Help Folder, c/o MacUser, 950 Tower Lane, 18th Floor, Foster City, CA 94404.

Don't want to wait for an answer? Post your question on ZiffNet/Mac, MacUser's

on-line service, and get a reply from Bob (76004,2076), Andy (72511,204), or one of the other MacUser experts. See the masthead in this issue for instructions on how to sign up.

By Bob LeVitus and Andy Ihnatko

Damien Monitor

Q. Why does my Apple 13-inch color monitor spontaneously switch itself off after only three or four hours every time I use it?

Alison Morgani

Daron, WI

Andy: Two possibilities suggest themselves, Alison. Either (a) you are the lucky beneficiary of a guardian angel, who, sensing that you're about to suffer a work-related strain injury, shuts down your monitor to give your hands and wrists a needed rest, or (b) it's broken.

Fortunately, it's not simply broken; it's defective (no cash outlay necessary). Many Apple high-resolution color monitors built a couple of years ago shipped with a defective power capacitor that over time, sends the screen into power shutdown at awkward moments. The short-term solution is unplugging the unit for a few seconds and then powering it back up. The

long-term solution is sending your monitor back to the mother ship for a free repair.

Not all monitors have this problem. If yours has a serial number within the ranges 5378111 to 5624450, 7000001 to 7101012, or 9000001 to 9029500, you've won this little lottery. Schlep your monitor to your friendly local authorized repair provider before March 1994, when the 13" RGB High Voltage Capacitor Repair Extension Program (translation: Apple's promise to fix it for free) ends.

Incidentally, it's generally good form to pop in on your local repair center every few months to see its book of valid repair extensions.

Bob: I know I say this frequently, but denizens of the on-line universe — ZiffNet/Mac, America Online, the Internet — find out such tidbits without the messy inconvenience of visiting their local repair center.

Screen Exorcism

Q. I have a color startup screen of a beautiful . . . well, let's just say I have a beautiful color startup screen. At least, I *used* to. One day, my startup screen began acting strange. It appeared in black-and-white, remained on-screen for only a second, and then disappeared.

I tried everything I could think of — replacing the startup screen, rebuilding the desktop, running Disk First Aid and Norton Utilities, zapping the PRAM — but nothing helped.

After a while, my startup screen came back, only to disappear again. Do I have a ghost in my machine?

Andy Winters

McLean, VA

Bob: This problem baffled me for months, until I accidentally discovered how to fix it. Open the Monitors control panel, select a bit depth (say, 256 colors), and then select a *different* bit depth.

* . . . But Were Afraid to Ask

Here on the front porch of a weekend cabin in the unspoiled Berkshires, it's easy to kick back and reflect on what's really important in life — the rolling hills capped by ponderous slabs of granite, the scent of the pine needles carpeting the forest, the call of the hawk and the robin, the incessant whir of the PowerBook 170 and CD-ROM drive I brought up with me, and the underblare of the console TV inside constantly playing VHS hi-fi cassettes of *Mystery Science Theater 3000*. I am moved to take off the headphones I'm using to listen to an Iggy Pop CD and reflect that it is, indeed, essential to get back to nature every now and then.

For those of you who live far away from the unspoiled Berkshires, you may get in touch with your spiritual side by sending in your simple and straightforward questions. To protect you from those who would encroach upon your meditations with filthy technology, we'll say your question was submitted by an author of breezy children's fare chosen at random.

Q. I had no complaints about my LC III until the system crashed. I reached around the side and fumbled for the restart switch and just kept on fumbling. Aren't there interrupt and restart switches anywhere on the LCs?

Thomas Pecket Prest
Temple Bar
London

Andy: No, there aren't any interrupt or restart buttons on the LCs.

On Macs without physical reset and interrupt switches, you have to use the keyboard. Command-Control-power key (see photo) resets the machine in a manner distastefully similar to using the DOS reset key combo. Command-power key puts you into the debugger. Two small caveats: First, you have to hold the keys down for at least one second for the Mac to get the hint, and second, this apparently doesn't work with all non-Apple keyboards.



The LCs don't have reset or interrupt buttons. You have to press Command-Control-power key to reset your Mac after a system crash.

Although I knew how to fix it, I didn't know why it worked. So I asked Mac ultra-wizard Bill Steinberg, the author of PBTools. He knows everything. He says it usually happens after you've reset (or zapped) the PRAM. (PRAM, or parameter RAM, is a small area of memory that is kept alive by batteries, even when the Mac is turned off, and holds such information as the date and the time. Under System 7, you zap the PRAM by holding down Command-Option-P-R as you start up the Mac.)

The technical reason has to do with the *scm* resource, located deep within the System file, and whether or not it agrees with the *scm* resource in your PRAM.

Compact Distress

Q. I've been spending most of my time lately recording sounds off my favorite CDs with the sound-input port of my new Mac. The only trouble is getting the right volume on my portable CD player for recording. Do you have any ideas?

Sue Paly
Fort Myers, FL

Andy: You know, it's kind of dippy, but I've collected a lot of tips on good sound sampling and the only one that really made a huge difference was to go down to Radio Shack and buy a recording-level attenuator, part number 274-300. This three-dollar adapter, which plugs in to your microphone-input jack, drops the line-level sound from your CD player (or whatever your sound source is) down to nice, friendly microphone levels so you get a clean recording.

I've also tried quitting all other applications and switching to 1-bit video before recording (which a friend of mine swears by), but nothing comes close to the effects of using the attenuator.

Stubborn CD-ROMs

Q. Sometimes I get a message on my Mac saying I can't dismount a CD-ROM or a cartridge because it's being shared across the network. But it's not! File sharing is on, but I've never shared a CD-ROM or cartridge in my life.

How can I dismount these recalcitrant discs?

Randi Jimenez
Santa Teresa, CA

Bob: From what I hear, that's an undocumented feature in file sharing and, I say, a royal pain. There are two easy and inexpensive ways around it.

The absolutely free solution is to turn off file sharing in the Sharing Setup control panel. Then you can eject the cartridge or CD-ROM.

The freeware alternative, UnMountIt, is more elegant. When you drag a cartridge or disc onto the UnMountIt icon, it shuts off file sharing briefly, dismounts the removable medium, and then restarts file sharing, saving you a trip to the Sharing Setup control panel. I use it all the time, and it's a peach.

UnMountIt is part of a package of three programs — called File Sharing Improvement Doohickeys — written by Apple Developer Technical Support guru Jim Luther. The other two programs, in case you're wondering, are AppleShareSetup and Server Remote Control.

AppleShareSetup allows your Mac to close AppleShare message boxes (boxes that give you information such as "the file server has closed") after a specific amount of time, even if you're not there to click on the OK button. In addition, you can completely disable AppleShare alerts as well as some auto-mount features — a good security and control feature for systems administrators.

Server Remote Control allows you to start or stop a file



Figure 1: Who is this guy and what is he doing? He appears in image 17 of the Photo CD sampler that comes with the AppleCD 300. If you can give us the best answer, we'll send you a valuable *MacUser* "I beat the System" T-shirt.

server, using another Mac on the same network.

File Sharing Improvement Doohickeys is well worth downloading for UnMountIt alone. You'll find it on CompuServe, America Online, and other fine telecommunication services. (On ZiffNet/Mac, *MacUser's* on-line service, you can find it in the Download & Support Forum, Library 14, under the filename FSIDOO.SIT.)

Andy: Supposedly, this anomaly is a safety feature. According to legend, some system-software engineers at Apple were pondering the problems that might arise from unmounting a cartridge or CD-ROM while other folks were sharing it. They decided the best way to eliminate the problem would be to make sure the Mac doesn't eject any removable media when file sharing is turned on.

If you wait to nudge that SyQuest cartridge or CD-ROM into its respective drive until after the parade of startup icons is through, you won't have to shut off file sharing to dismount the medium.

The real value I have to add to this discussion is an observation about the guy in image 17 of the Photo CD

sampler that came along with my AppleCD 300 drive (see Figure 1). Is he refereeing a Senators versus Centurions basketball game in the Roman Empire? It looks like he's signaling a Centurion's fourth personal foul.

Bob: The first one to tell us who he is and what he's doing will win one of our ultraspy (and rare) "I beat the System" T-shirts.

System 7 Up?

Q. Should I upgrade from System 7.0.1 to System 7.1? I've read a lot about the new version but can't see how I'd benefit.

Joseph Parantela
New Haven, CT

Andy: Honestly, the single change the average user might take a shine to is the Fonts folder, which gives you one central location within the System Folder for dumping all of your font files. There are other features, such as WorldScript (which lets you switch between operating your Mac in English and in whatever your local language happens to be), bundled copies of QuickTime 1.5 (previously you had to either shell out more than \$150 for the commercial version of the

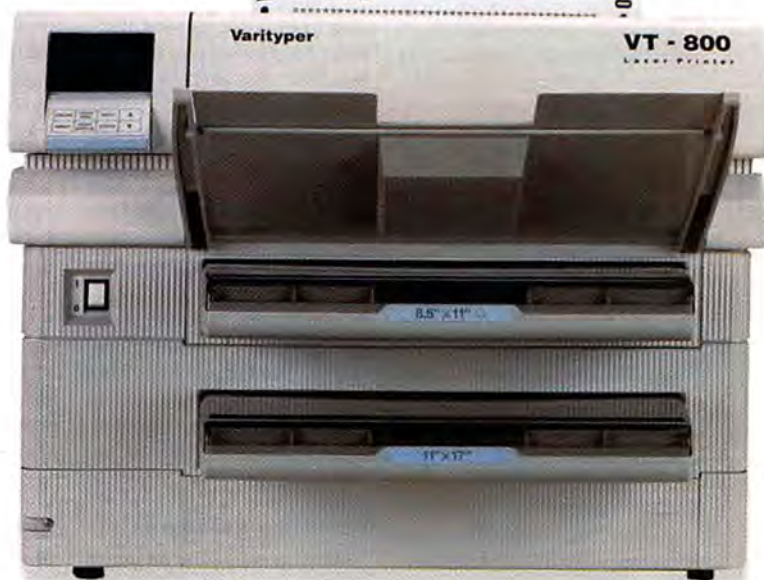
Lots of Dots

800 dpi

• VT800 • VT820 • VT800



VT800 • VT820 • VT800



800 dpi, 11" x 17" Printer for the Pros

Get crisp 800-dpi resolution and ledger-sized pages at a breakthrough price! The Varityper® VT800 puts a professional printer to work for you – with an Adobe™ PostScript™ Level 2 RISC controller, dual paper trays, and high-performance printing: up to 15 letter-sized pages per minute! The hefty 8MB of standard RAM is expandable to 32MB for complex ledger-sized pages. LocalTalk™ and Ethernet connections are standard, as is Virtual Printer Technology for seamless, intelligent network printer configuration. And fonts: 35 are resident and an additional 35 come free with the attached Varityper Font Drive! A high duty cycle of 50,000 pages per month enables the VT800 to stand up to rigorous production. For high-volume applications, the faster VT820 outputs up to 20 letter-sized pages a minute, and can switch between three input cassettes.

VT800 \$4,595

VT820 \$5,495

PostScript Fax Modem – Send and receive faxes with your printer! \$399

Expand Your Font Library

Increase your font library – and gain room for further expansion on your PostScript printer! The Varityper Font Drive is an 80MB external hard disk with 35 popular Type 1 fonts from the Varityper PS™ Library. No more waiting while the application program downloads fonts – no more manual downloading.

\$799

Included with every VT800 and VT820 printer!



Get a FREE issue of PrePRESS DIRECT!

PrePRESS DIRECT! is the only direct-mail catalog devoted exclusively to the professional electronic prepress industry. To get your FREE issue of PrePRESS DIRECT!, just fill out this coupon and send it to us, or give us a call toll-free at 1-800-443-6600.

MUD93



Name: _____
 Company: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Tel: _____

PrePRESS[®] DIRECT!

a Tegra Company

800-443-6600
NJ 201-887-2300
Fax 201-887-4300

11 Mt. Pleasant Avenue, East Hanover, NJ 07936

CIRCLE 40 ON READER SERVICE CARD.

©1993 PrePRESS DIRECT, Inc. The PrePRESS DIRECT! logo is a registered trademark and PrePRESS DIRECT! is a trademark of PrePRESS DIRECT, Inc. Varityper is a registered trademark and Varityper PS is a trademark of Varityper, Inc. Adobe and PostScript are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions. LocalTalk is a registered trademark of Apple Computer, Inc. Virtual Printing Technology is a trademark of Dataproducts Corporation. Prices subject to change.

QuickTime package or download QuickTime on your own), and the long-overdue implementation of MODE32 features (which finally means that older Macs can be operated in 32-bit mode).

For now, don't buy the new system software. Spend the money on a Super Nintendo with the new Super Empire Strikes Back cartridge instead.

Bob: If I were you, I'd spring for the upgrade. System 7.1 has been more stable than 7.0.1. Unexplained crashes and Type 1 errors seem to occur much less frequently since I've taken the plunge. QuickTime 1.6, included with more-recent copies of System 7.1, is also more stable and uses a lot less memory than its predecessors.

This is strictly conjecture, but by the time you read this, System 7.1 may not be the latest and greatest any longer. With the arrival of new technologies such as AppleScript, QuickDraw GX, and AOC (Apple Open Collaboration Environment), I suspect that System 7.2 (or 7.1.1) is just around the corner.

Andy: QuickTime 1.6 is indeed a vast improvement over 1.5, but you can get it for free from dealers, user groups, and on-line services.

If the upgrade to System 7.1 were free, I'd say go for it... but in my humble opinion, if you're going to blow a hundred bucks on a major system-software upgrade, you're better off waiting for the next one, which promises to be pure Tabasco from top to bottom.

Forsaken Ilci

Q. My Ilci has an empty ROM SIMM slot. Is it good for anything?

Dave Poindexter
New York, NY

Bob: I couldn't find a single product from Apple or anyone else that goes into the ROM SIMM slot of a Ilci. I

posted messages on ZiffNet/Mac and in the MAUG forum of CompuServe, but nobody else knew of a use for it either. As far as I can tell, it's good for absolutely nothing.

Andy: For the uninitiated, the ROM SIMM (sounds like an alien foe in the original "Star Trek" series) is *intended* to allow the Mac to receive wholesale updates to its original set of ROMs without your having to go in for a whole motherboard swap. But, much like any one of the dozens of government resources Ross Perot is always working himself into a purple snit over, this powerful resource is going to waste.

Setting Standards

Q. I'm one of the people in my company who's responsible for managing a network of nearly 100 Macs. From time to time, we need to distribute documentation and reference materials to the people on the network, but unfortunately, the company has yet to adopt a single standard for word processing. Our documentation files require the use of graphics and some pretty heavy formatting, so plain TeachText files are out. Is there a utility that will let us distribute non-application-specific documents?

Andy Eng
via the Internet

Andy: Here are two alternatives. First, you can prepare your documentation in a form that almost any word processor can understand. On on-line services, the most popular format is Microsoft Word 4.0, but as a practical matter, MacWrite format (not MacWrite Pro) is your safest choice. Yes, Apple's newish Easy Open extension will help make file formats a moot point, but you still can't go wrong if you assume your audience has a program that can deal with MacWrite files. On matters typographical, stick to

the standard built-in LaserWriter fonts.

If, on the other hand, you're in a situation in which your users are sufficiently cretinous that you think you'll spend most of your day patiently soothing them with "Yes, I know you have only Nisus, but trust me, you'll be able to open a MacWrite document with it nonetheless" or if you don't want anyone editing your documentation, distribute an encapsulated document. An exceptionally spiffy shareware product called Print2Pict can take the pages from a word-processing document and reduce them to a series of PICT-format graphics. These PICT pages are tucked into a small stand-alone application that can be used to read or print the document. All your users have to do is double-click on the file, and they're on velvet, so to speak. You can get Print2Pict from the usual shareware sources: on-line services and user groups. (On ZiffNet/Mac, you can find it under the filename P2PICT.CPT in the Download & Support Forum.)

Bob: There is another shareware program that might fill the bill: Mark Wall's DOCMaker, an easy-to-use

application that creates self-opening, formatted documents and allows mixed text and graphics (see Figure 2). The popular shareware magazine *Inside Mac Games* is published monthly in DOC-Maker format and looks great. (The ZiffNet/Mac filename is DOCMAK.SEA.)

There are two commercial solutions to creating non-application-specific documents: Common Ground, from No Hands Software (415-321-7340), and Acrobat, from Adobe (800-272-3623 or 415-961-4400). Common Ground allows you to include a miniviewer with your document, so recipients don't need to have a copy of Common Ground; Acrobat requires each recipient to own a copy of Acrobat.

Andy: I've checked out prerelease versions of the latter two programs and was breathtakingly unimpressed. Both Print2Pict and DOC-Maker outclass the commercial products by yards when the goal is simply to create a somewhat richly formatted application-independent electronic document. Admittedly, Acrobat and Common Ground have broader goals than their shareware brethren. 



Figure 2: Anyone with a Mac, regardless of the applications installed, can open documents you've created in DOCMaker. Documents can display text, graphics, and even a table of contents.

Without *training*, thousands of dollars already spent on computers and software is needlessly wasted.



"...just one short-cut on your Word video saved me 20 minutes of set-up time, not to mention frustration..."

Harland Anderson - Computer Consultant

\$3,800 Wasted Without TRAINING!



"As a result of your videos my Mac is running lean and mean..."

J. J. Johnson - San Jose, CA

\$1,800 Wasted Without TRAINING!

"A company having a difficult business year is often the one that needs to train the most, because they're clearly in a competitive situation where it's even more important to elevate the skills of their people... We find the BEST RETURN ON ANY INVESTMENT COMES FROM TRAINING... your rewards go for the lifetime of the employee rather than just for the lifetime of the equipment."

Tom Peters

Excellent Low Cost Training Solution

MacAcademy training videos are simple, low cost, easy-to-use and extremely effective. New users to the Mac or to a Macintosh program can master a program by watching t.v.! Each technique is described in detail with the user *seeing* each step on a Macintosh screen.

Award Winning Excellence in Training

MACWORLD Magazine readers voted MacAcademy the World Class Award for training giving MacAcademy more than twice as many votes as any other training product or company.

Guaranteed Results

Each MacAcademy Training Video carries an iron clad, money-back guarantee. If, within 30 days, you are not totally satisfied with every video you purchase from MacAcademy you may receive a full refund...no questions asked!

MacAcademy Videos Work

MacAcademy training videos have helped over 100,000 people learn new Macintosh skills. By using the videos new users can cut their learning curve by up to 75%.

To Order

To order with a credit card call 800-527-1914 Dept. MU 1293. Purchase orders, checks, and credit card orders may be mailed to the address listed below. Please add \$3 plus \$1 per video shipping and handling. FAX number is 904-677-6717, International 904-677-1918.

MacAcademy®

477 S. Nova Rd.

Ormond Beach, FL 32174

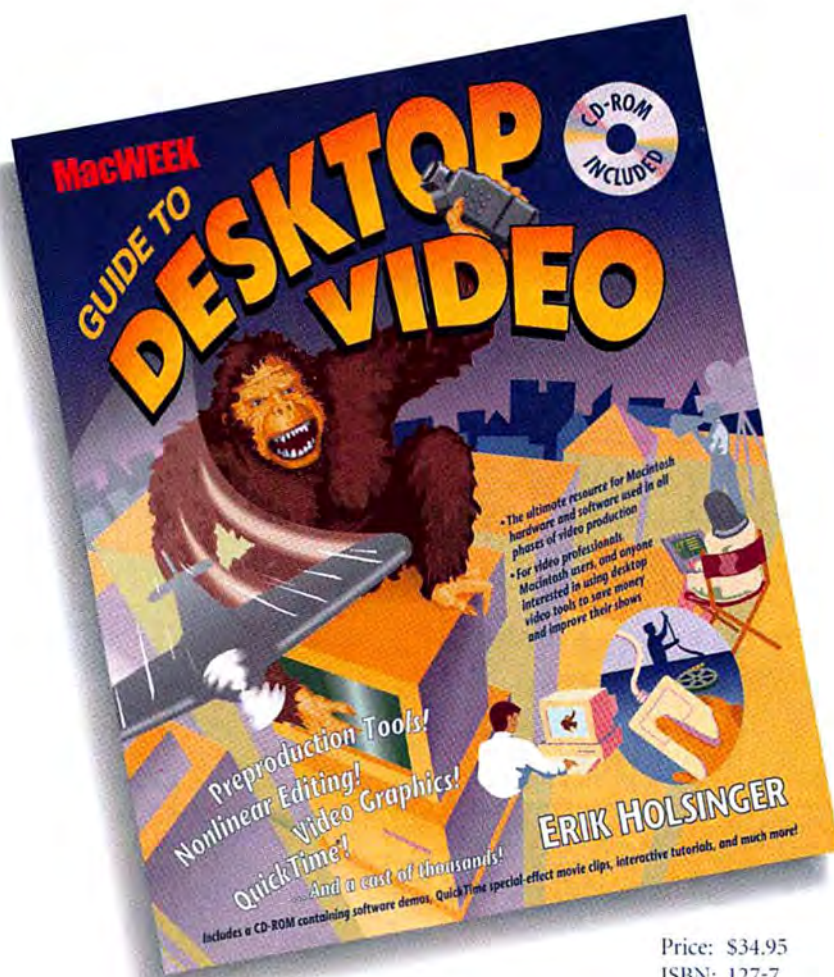
CIRCLE 83 ON READER SERVICE CARD.

- Acius 4th Dimension (1) ☐
- Acius 4th Dimension (2) ☐
- Acius 4th Dimension (3) ☐
- Acius 4th Dimension (4) ☐
- Adobe Illustrator 3.2 (1) ☐
- Adobe Illustrator 3.2 (2) ☐
- Adobe Illustrator 3.2 (3) ☐
- Adobe Photoshop (1) ☐
- Adobe Photoshop (2) ☐
- Adobe Photoshop (3) ☐
- Adobe Photoshop (4) ☐
- Aldus Freehand (1) ☐
- Aldus Freehand (2) ☐
- Aldus Freehand (3) ☐
- Aldus Freehand (4) ☐
- Aldus PageMaker (1) ☐
- Aldus PageMaker (2) ☐
- Aldus PageMaker (3) ☐
- Aldus PageMaker (4) ☐
- Aldus Persuasion (1) ☐
- Aldus Persuasion (2) ☐
- Aldus SuperPaint (1) ☐
- Aldus SuperPaint (2) ☐
- Aldus SuperPaint (3) ☐
- Claris FileMaker Pro (1) ☐
- Claris FileMaker Pro (2) ☐
- Claris FileMaker Pro (3) ☐
- Claris FileMaker Pro (4) ☐
- Claris HyperCard (1) ☐
- Claris HyperCard (2) ☐
- Claris HyperCard (3) ☐
- Claris MacDraw Pro (1) ☐
- Claris MacDraw Pro (2) ☐
- Claris MacProject II (1) ☐
- Claris MacProject II (2) ☐
- Claris MacProject II (3) ☐
- Claris MacWrite II (1) ☐
- Claris MacWrite II (2) ☐
- ClarisWorks (1) ☐
- ClarisWorks (2) ☐
- ClarisWorks (3) ☐
- ClarisWorks (4) ☐
- Deneba Canvas (1) ☐
- Deneba Canvas (2) ☐
- Deneba Canvas (3) ☐
- Intuit Quicken (1) ☐
- Intuit Quicken (2) ☐
- Learning Macintosh (1) ☐
- Learning Macintosh (2) ☐
- Learning Macintosh (3) ☐
- Microsoft Excel (1) ☐
- Microsoft Excel (2) ☐
- Microsoft Excel (3) ☐
- Microsoft Excel (4) ☐
- Microsoft Excel (5) ☐
- Microsoft PowerPoint (1) ☐
- Microsoft Word (1) ☐
- Microsoft Word (2) ☐
- Microsoft Word (3) ☐
- Microsoft Word (4) ☐
- Microsoft Works (1) ☐
- Microsoft Works (2) ☐
- Microsoft Works (3) ☐
- Microsoft Works (4) ☐
- QuarkXPress (1) ☐
- QuarkXPress (2) ☐
- QuarkXPress (3) ☐
- Using PowerBooks (1) ☐
- Using PowerBooks (2) ☐
- WordPerfect (1) ☐
- WordPerfect (2) ☐

\$49/ea.

MacAcademy Training Videos

\$49/ea.



Price: \$34.95
ISBN: 127-7

From major motion picture to home video, finally there is an exciting new book that sorts through the hype to get to the real desktop video story: *MacWEEK Guide to Desktop Video*.

Macintosh and video expert Erik Holsinger has created the

**Free software and
valuable coupons
worth hundreds of
dollars are included**



ultimate resource on the best hardware and software for use in all phases of video production. It's all here in one easy-to-use guide with full-color examples, dozens of illustrations, and a CD-ROM that contains software demos, interactive tutorials, clip-art samples, and much, much more.

Ask your favorite bookseller for *MacWEEK Guide to Desktop Video* or call 1-800-688-0448 ext. 7373 to order your copy.*



© 1993 Ziff-Davis Press

*Quantity discounts available.

CIRCLE 36 ON READER SERVICE CARD.

MacUser
MEANS BUSINESS
COMING SOON:



FEB GETTING TO THE CORE OF THE APPLE NEWTON

Drop into MacUser this February for an in-depth look at the Newton, its many capabilities, and what's in store for you. All types of upcoming commercial and shareware applications are previewed — medical, financial, expenses, games and more — in the Macintosh magazine buyers use most: MacUser

THE BIG PICTURE: 16" AND 17" MONITORS

The MacUser experts don't just look at monitors — they scrutinize them. 23 color monitors costing under \$2,000 are rigorously tested for image quality, color quality, tech support, ergonomic factors, and power consumption. Emissions are also checked, using the Swedish MPRII and TCO standards. MacUser makes buying safer — and easier.

SCANNING THE FLATBED SCANNERS

This February, MacUser tests 10 color flatbed scanners in the under-\$2,000 range for speed, line art, image quality, range of color, and tech support. Optical character recognition and gray-scale scanning are also explored, along with ease of use, set-up and installation. MacUser scans the market to help buyers buy, month after month.

**FEBRUARY AD CLOSE:
TUESDAY,
NOVEMBER 30TH, 1993**

"This ZEOS® has the right stuff to become your LAN workhorse."

—Computer Shopper

256K cache standard for faster throughput

EISA SCSI caching controller for fast access to frequently used data

Up to 2GB hard drive!

Ten drive bays give you incredible expandability



Waiting to buy an Apple file server? Instead, why not get a high-speed file server at a price you can afford...right now?

EISA—Extended Industry Standard Architecture—really means *faster performance*. Last year *PC Magazine* called it "...best on our tests" and found that ZEOS EISA offered performance easily twice as fast (and occasionally ten times as fast)* as a traditional file server with the same microprocessor and megahertz rating. Now industry experts are saying it's "destined to become your LAN workhorse."

And it's 100% compatible with every major networking operating system on the market. With other servers, it can be difficult to hook up more users. Your server bogs down dramatically with each additional client. With the ZEOS EISA, adding more users is a breeze. It integrates easily. So you—and your site users—won't know you're logged into a PC.

Low cost. Incredible speed. Flexibility. ZEOS award-winning quality and support. Plus, it's available now!

486 EISA

- 8MB RAM
- High-speed 452MB SCSI hard drive
- EISA caching controller card with 2MB of memory
- One 5.25" 1.2MB and one 3.5" 1.44MB floppy disk drive
- High-speed Diamond SpeedStar SVGA graphics card with 1MB RAM (capable of 16.7 million colors)
- ZEOS 14" 1024 x 768 non-interlaced SVGA color monitor, .28mm dot pitch
- Ten-bay vertical case with two cooling fans
- New ergonomic Microsoft Mouse, DOS 6.0 with Tools, Windows 3.1

486DX-33\$3395
Lease \$112/month

486DX2-50\$3495
Lease \$115/month

486DX2-66\$3595
Lease \$119/month

Call for other money-saving packages and options!

STANDARD WITH EVERY ZEOS EISA:

- RAM expandable to 128MB on the motherboard.
- ZIF socket for CPU upgrades all the way to the Pentium™-based OverDrive™ processor.
- 256K SRAM cache.
- Two serial ports and one parallel port on the motherboard.
- Six 32-bit expansion slots accept EISA and ISA expansion boards.
- 200W power supply with built-in surge suppressor.
- A ZEOS 101-key keyboard.
- FCC Certified Class B, UL Listed.
- 24-Hour Toll-Free Technical Support, 30-Day Money-Back Guarantee, complete ZEOS Customer Satisfaction Package.

CALL NOW TOLL FREE
800-554-5231
24 HOURS A DAY

Fax Orders: 612-631-8969, Government: 800-245-2449, Hearing Impaired (TDD): 800-228-5389, Outside U.S. and Canada: 612-633-6131. Purchase Orders, MasterCard, VISA, Discover, Am Ex, Z-Card™ COD and affordable leasing programs. Open 24 Hours a Day, 365 Days a Year!



Purchase orders are subject to approval. Business leasing programs available. Leasing payments shown based on a 36-month lease, 10% purchase option. All prices, specifications and availability are subject to change without notice; call to confirm these and warranty details. Prices do not include shipping. All products and company names are trademarks or registered trademarks of their respective holders. ZEOS is a registered trademark; Z-Card is a registered servicemark of ZEOS International Ltd. © 1993 ZEOS International, Ltd., 1301 Industrial Blvd., Minneapolis, MN 55413 USA. ZEOS is a publicly traded company (NASDAQ symbol: ZEOS). EISA-MAC-9312

MacUser

Advertising Gallery

Your window to the latest
Macintosh products,
the Advertising Gallery features
new advertisers and their products.
Turn to this section every month
and find out what's new
on the Macintosh market.

*For special rates and details contact your
local MacUser advertising sales representative.*

Mac Modems at PC Prices.

Also Available At Participating University Bookstores



"A 14.4 fax modem that works, and works flawlessly". . .

—Dvorak on Computers

STF Software



SPECIAL HOLIDAY GIFT
"Managing Your Money"
Personal Finance Software with the purchase of each 14.4K Fax Modem



COMPUTE CHOICE AWARDS FINALIST

TOP 10 REASONS TO BUY

1. Toll-free Customer Service ★
2. Toll-free Technical Support ★
3. Full 2 year Warranty ★
4. Recommended by the Experts ★
5. Top Magazine Reviews ★
6. A Decade of Success in the Industry ★
7. Quick Delivery ★
8. Satisfaction Guaranteed ★
9. Unbeatable Value ★
10. Great Prices ★

FREE
CompuServe

Free CompuServe Information Manager Software with each modem. Value: \$23.95

Best Data presents a superior 14.4K bps send/receive fax modem for the Macintosh. This high speed U.S.-made fax modem offers 14.4K bps send and receive fax and up to 57.6K bps data throughput. Our 14.4 fax modem is group 3 compatible and offers a full compliment of data compression and error correction features including V32bis, V.42bis and MNP 2-5. And it comes complete with STF Universal Fax software, Microphone LT software and cable.

Best Data has been making high-quality reliable modems for over a decade on the PC side of the world, and now we bring superior technology to the Mac world. But we just can't bring ourselves to charge more for our modems just because they're for the Macintosh—so take this opportunity to get you Mac modem at a PC price.

Made in the U.S.A.

NEW

\$99

Macintosh Mini Fax Modem

Portable /Desktop 9600/4800 send/receive fax modem in combination with V.42bis

2400 data modem. Both battery and AC operated for laptop and desktop computers. Includes STF Universal Fax software, Microphone LT software and cable. Retail value \$169.



\$89

9624 Macintosh Fax Modem

External 9600 bps send/receive fax and 2400 bps data modem combo. Includes STF Universal Fax software, Microphone LT software and modem cable. Retail value \$169.

\$59

2400 Macintosh Modem

External 2400 bps data modem. Includes Microphone LT software and modem cable. Retail value \$99.



This offer is available from the manufacturer for a limited time only.

Buy Direct And Save!
1-800-503-BEST



To order call TOLL FREE Monday-Friday 8am to 5pm PST. Best Data accepts MC, Visa and Pre-paid orders. Next day delivery available. Best Data Products, 21800 Nordhoff, Chatsworth, CA 91311.



BEST DATA PRODUCTS, INC.

1-818-773-9600
1-818-773-9619 Fax

CIRCLE 31 ON READER SERVICE CARD.

© Best Data and Smart One are registered trademarks of Best Data Products, Inc. Macintosh and Mac are registered trademarks of Apple Computers Inc. All brands and product names are trademarks of their respective holders.

The Fastest 68030 Accelerator. Period.

The DiimOCache 50MHz Accelerator is the fastest 68030 accelerator according to MacUser Lab's April 1993

**Accelerator Review on the Macintosh IIfx and IIsi. MacUser

Labs tests also show that the DiimOCache 50MHz not only outperforms DayStar's PowerCache 50MHz but also most 68040 25MHz accelerators and costs less too! With Motorola's 68030 50MHz processor and 64K

Static RAM Cache, the DiimOCache Accelerator will speed up everything you do on your computer by up to 400%. At a retail price of \$649 and \$749 with a 50MHz math coprocessor, you can't get a better deal.

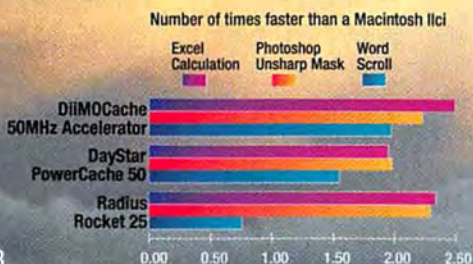
The DiimOCache 50MHz supports nine different Macs - the II, IIfx, IIfx, SE/30, IIsi, IIfx, IIfx, IIfx, and the Performa 600.

If you want the fastest 68030 accelerator available, there is only one choice. The DiimOCache 50MHz Accelerator.

** The DiimOCache 50MHz Accelerator design was formerly licensed to Logica Research, Inc. and marketed under the LogiCache™ brand name. In MacUser's April 1993 Accelerator Review, the DiimO-designed accelerator received a 4 1/2 Mice rating out of 5 and was chosen as the Bottom Line Pick for the Mac IIsi and IIfx. DiimO Technologies offers a 30-day money back guarantee, a five year warranty and toll-free tech support on all products.

For more information call
800-50-DiimO
(800/503-4466)

DiimO Technologies, Inc.
2540 Brockton Drive, Suite 110
Austin, Texas 78758
512/834-0106 FAX 512/834-9623



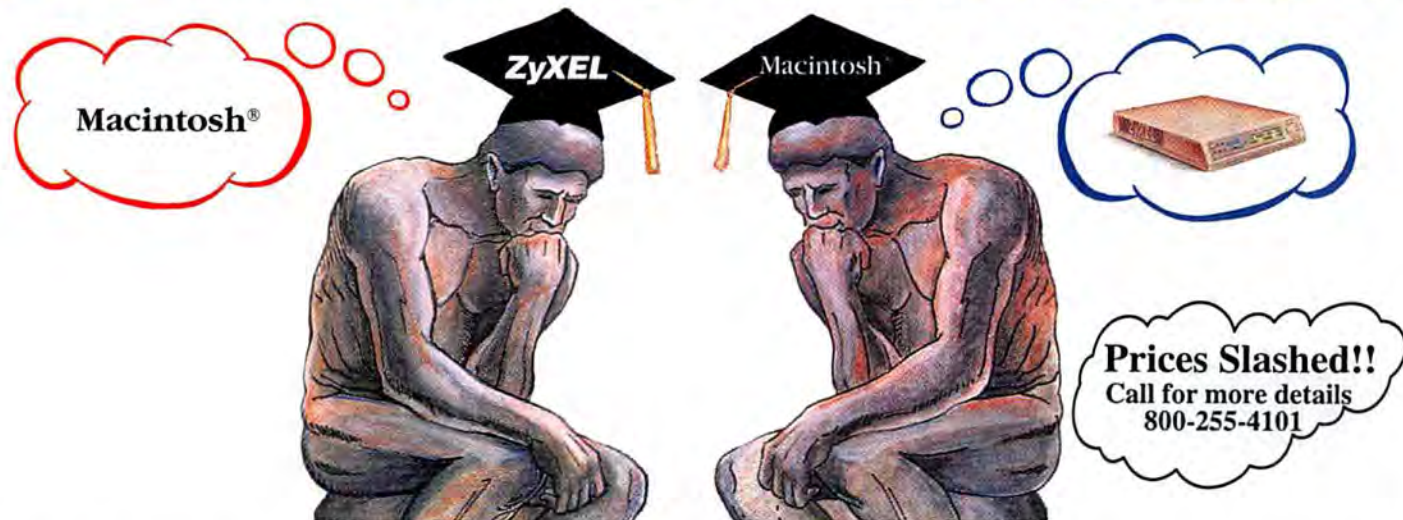
The DiimOCache™ 50MHz Accelerator

CIRCLE 19 ON READER SERVICE CARD.

©1993 DiimO Technologies, Inc. DiimO™ and DiimOCache™ are trademarks belonging to DiimO Technologies, Inc. All other trademarks or trade names referenced belong to their respective owners.



GREAT MINDS THINK ALIKE



That's why Macintosh® and ZyXEL Make an Intelligent Team

Two Minds Are Better Than One

Macintosh's® popular and friendly system and ZyXEL's intelligent, full featured fax/modem make a team destined for success. Put these two great minds together, and the possibilities are endless.

Quick Wit

ZyXEL's Ultra High Speed of 19.2Kbps/data and 14.4Kbps/Fax S/R (PLUS Series), with DTE speeds of up to 76.8Kbps, keep you connecting at lightning speeds. And soon you will be able to upgrade to the V.Fast advantage, starting at \$249*, which is sure to make your heart beat faster!

Intelligent Features

ZyXEL's full features are quite a catch for any Mac user: Digitized Voice Capability with Speech Compression, Distinctive Ring, Caller ID, Auto Fall-Forward, Auto Fall-Back, Call-Back Security with Password Protection and Remote Configuration – all of these set ZyXEL apart from other High Speed Fax/Modems and give Mac users the necessary resources and skills to combat the ever changing communications industry.

ZyCellular

ZyCellular gives you cellular capabilities allowing you to send and receive data and fax messages from anywhere, using a laptop and portable cellular phone. ZyCellular is available on all ZyXEL modems.**



The U-1496P Portable

The Powerbook Companion

ZyXEL's U-1496P, the new sturdy, light-weight and full featured portable fax/modem, includes high speed, effective data compression, and digitized voice and cellular capabilities. And ZyXEL's Portable is the perfect accessory for your powerbook, allowing you to communicate from almost anywhere.

Smart VoiceFax Software

With ZyXEL's VoiceFax Software for Macintosh®, you can have voice, fax and answering machine capabilities on one phone line. This allows you to have a voicemail system with up to a 1000 voice and fax mailboxes. Additional features include the automated attendant function which automatically detects between fax and voice.

Sophistication And Savings

ZyXEL's award winning V.32bis/V.32 and V.42bis/V.42 modems are guaranteed for 5 years*** for all parts and labor. And rest assured that ZyXEL's Mac specialized Technical Support Team is available to answer your ZyXEL questions.

A Wise Investment

ZyXEL's Intelligent modem is a wise investment for Mac users everywhere. Like attracts like, and ZyXEL looks to Macintosh® as an example of excellence. Let two great minds work together to change the way you communicate. Order your award winning ZyXEL modem today. **CALL 800-255-4101**



ZyXEL
The Intelligent Modem

4920 E. La Palma Ave., Anaheim, CA 92807 Tel: (714) 693 0808
FAX: (714) 693 0705 BBS: (714) 693 0762

Come see us at Comdex/Fall '93 Booth L-7142

*V.Fast Upgrade price depends upon the model purchased. This offer is valid in the USA and Canada only. **ZyCellular option available for E models from October 31st, 1993. ***2 year warranty on Rackmount models. Specifications and price are subject to change without prior notice. All trademarks are the property of their respective owners.

CIRCLE 115 ON READER SERVICE CARD.

Meet the Brains Behind the Beauty

To the outside world, the Apple Macintosh presents the world's most graceful



computing environment.

But on the inside, the Mac is layer after layer of stunningly intricate technology and design. If you've ever wondered how it all fits

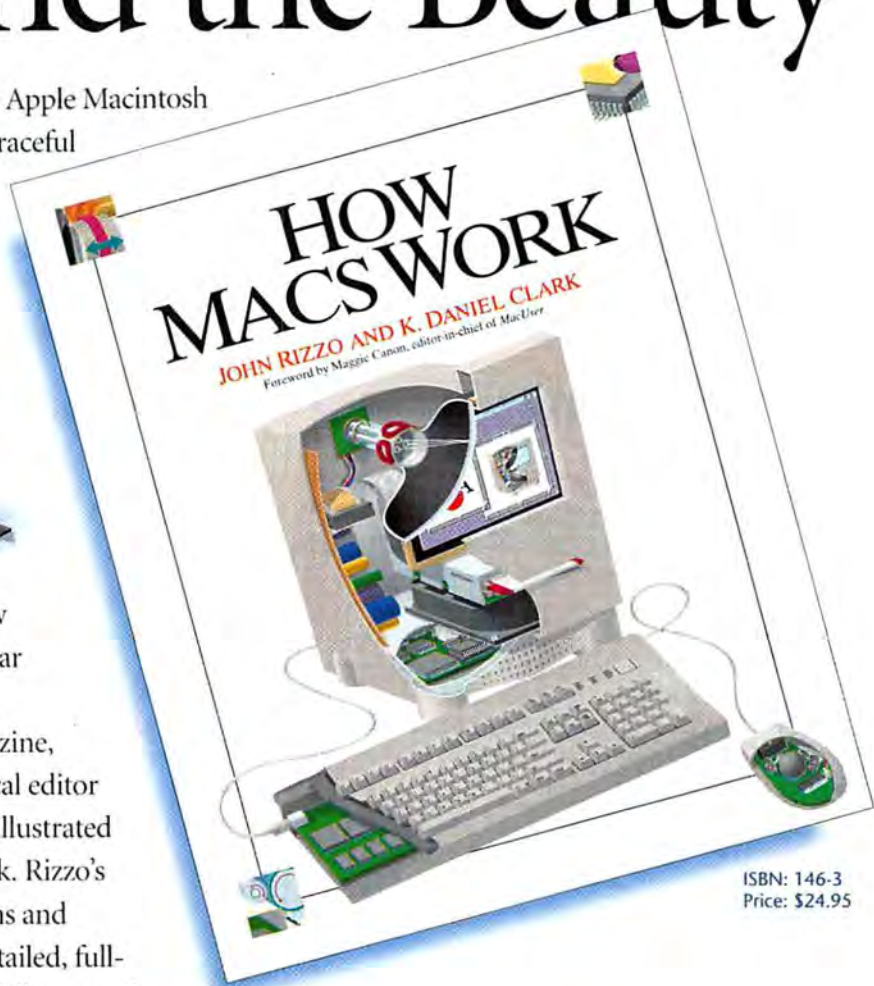


together, read

How Macs Work, an all-new book inspired by the popular "How It Works" series that appeared in *MacUser* magazine, written by *MacUser* technical editor John Rizzo, and brilliantly illustrated



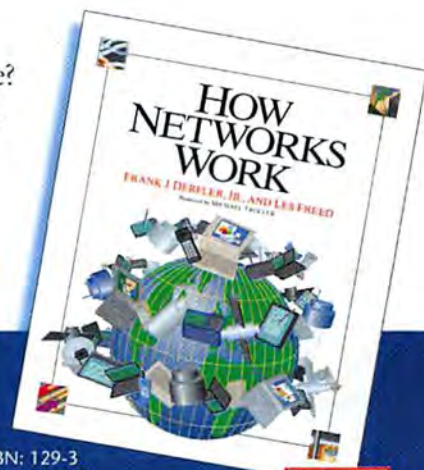
by K. Daniel Clark. Rizzo's lucid explanations and Clark's highly detailed, full-color illustrations artfully unmask and demystify the inner workings of the Macintosh. What happens to data on the way from memory to storage? How does the closely guarded Mac ROM chip give the Mac its unique look and feel? How do technologies mesh to form the Mac's built-in networking features? If you've ever wondered what makes a Mac a Mac, turn to *How Macs Work*.



ISBN: 146-3
Price: \$24.95

Also Available: How Networks Work

This dazzlingly illustrated masterpiece unravels the mysteries of the personal computer based network.



ISBN: 129-3
Price: \$24.95

Available at all fine bookstores, or call 1-800-688-0448, ext. 136.

CIRCLE 13 ON READER SERVICE CARD.



© 1993 Ziff-Davis Press

Direct Line

MAIL ORDER SECTION



For many of you, mail-order is your primary means of purchasing Macintosh products and services. That's why MacUser has put together the following special section. Direct Line offers a convenient place to quickly find the products you need from the vendors you want to buy from. But before you shop by phone, look for the mail-order company that is best for you. Here are a few tips to help you get the most out of your buying experience.

How to Buy Mail Order Products

Research The Company

Well-established companies tend to be reliable, but if you're not sure how well established a company is, it pays to do a little research and ask a few questions.

Know What You Want

Know exactly what you want before you call. Magazines, on-line forums, and user groups are all good places to seek advice.

Check Compatibility

To avoid having to return merchandise, find out whether the product you're interested in is compatible with your system.

Pay With Credit

Whenever possible, use a credit card. Some credit-card companies do such

things as double your warranty or give you a refund if you find a lower price elsewhere. If you have a problem, your credit-card company will deal with the mail-order company.

Confirm Prices

Confirm the price when you place your order, including delivery charges. Some companies will waive the delivery charge.

Delivery Methods

Ask about delivery methods — find out what carriers are used, how fast they are, and how much each one costs. Record delivery information.

Return Policies

Because you're buying sight unseen, make sure the company has a return policy you're comfortable

with. Find out if you're responsible for paying shipping charges on returned goods and whether you'll be charged a restocking fee.

Check Packing Slips

Before you use your new merchandise, make sure it's exactly what you ordered — the correct model or version number, for example. It's easier to return goods before they've been unpacked.

Repair/Replacement Services

If you're buying hardware, find out how the company handles repairs or replacements.

Technical Support

Technical support varies from company to company. Make sure you know what help is available.

BIG, FAST DRIVES!

MICROPOLIS

The Fastest Drives for Your Mac!

With record-setting effective access times as low as 3.9 milliseconds, data transfer rates as high as 10 megabytes/second, and a five-year disk drive warranty, Micropolis is the drive you need for high-performance applications.

PHOTOSHOP

DIGITAL/AUDIO

MULTIMEDIA

FILESERVERS

And, **DirectTech** is your premier source for Micropolis drives. We have a 30 day money back guarantee and replace out of stock for 60 days. Call us today, we have one of the most knowledgeable staffs in the business.

Model Number	Formatted Capacity	Effective Access	Drive Size	Special
DT-2105	560 Megs	3.9 ms	3.50	◀▶
DT-1624	670 Megs	4.6 ms	5.25 HH	▶
DT-2108	700 Megs	3.9 ms	3.50	◀▶
DT-2112	1050 Megs	3.9 ms	3.50	◀▶
DT-1528	1340 Megs	4.1 ms	5.25 FH	
DT-1908	1400 Megs	3.9 ms	5.25 FH	◀▶
DT-1548	1750 Megs	3.9 ms	5.25 FH	▶
DT-1924	2000 Megs	3.9 ms	5.25 FH	◀▶
DT-1936	3000 Megs	3.9 ms	5.25 FH	◀▶

◀ Fast SCSI-2 ▶ 5,400 RPM

RED HOT SPECIALS!

Model	Internal	External
DT-2105	\$895	\$965
DT-1548	\$1,875	\$1,975
DT-1908	\$1,815	\$1,915

Over 1,000 Drives in Stock for Same Day Shipping! Order by 4:00PM Central

We Also Stock:
Disk Arrays, Optical Drives, High-Performance Laser Printers, Color Printers.

MasterCard, Visa and Pre-Approved Purchase Orders Accepted.

If You Need High-Capacity, Speed and Reliability... Call Us Today!

DIRECTTECH
800-279-5520

International...USA-612-941-2616



Sure it's Insured?

Most computers are not insured. And ordinary policies may exclude or limit the coverage you need. Do you have the ready cash to replace stolen or damaged equipment? You will if you have **SAFEWARE's** comprehensive **COMPUTEROWNERS** coverage. It provides full replacement of hardware, media and purchased software for just pennies a day! Your protection includes theft, fire, accidental damage, and more. Even costly power surges are covered. Just select your system value and premium from the table below. Use the coupon or call for immediate coverage or more information.

Amount of Insurance	Annual Premium
Up to \$2,000	\$ 49
\$ 2,001-\$ 5,000	\$ 69
\$ 5,001-\$ 8,000	\$ 89
\$ 8,001-\$11,000	\$109
\$11,001-\$14,000	\$129

Call for rates on higher amounts
Underwriting requirements may vary
by state. Void where prohibited.

SAFEWARE

1-800-848-3469

FAX 1-614-262-1714
On CompuServe, GO SAF
On GENie, SAFEWARE
SAFEWARE, The Insurance Agency Inc.
2929 N. High St.
P.O. Box 02211
Columbus, OH 43202

10 DAY TRIAL. Review your policy for 10 days after you receive it. Satisfaction guaranteed or your money back.

Name _____

Address _____

Phone (Daytime) _____

☐ Check Enclosed ☐ Visa ☐ MasterCard Exp. _____

Card # _____

Total value of hardware, media and purchased software \$ _____
(Insure to full value)

Your signature _____

Mail to: **SAFEWARE**, The Insurance Agency Inc., P.O. Box 02211, Columbus, OH 43202

CIRCLE 59 ON READER SERVICE CARD.

Changing your mailing address?

It's a simple procedure to ensure that your next issue of **MacUser** will catch up with you as soon as you move.

Please send your **NEW** address **PLUS** your current mailing label to:

MacUser
P.O. Box 56986
Boulder, Colorado
80322-6986

Please allow up to 60 days for change of address to take place.

CIRCLE 33 ON READER SERVICE CARD.

Order Toll Free
800-682-1045



OVERNIGHT
SHIPPING
ONLY \$3.00*



MAC DEPOT

**USE OUR TOLL-FREE
INTERNATIONAL PHONE LINES**

Australia 0014-800-125-712
Canada 800-548-2512 • Denmark 0434-0297
France 0590-1099 • Italy 1678-74086
Japan 0031-11-1351 • Netherlands 06-022-8613
Norway 050-12029 • Switzerland 046-05-3420
United Kingdom 0800-89-1178
Our Fax # 310-222-5800

radius
COLOR PIVOT/LE

Authorized
Reseller

High quality 15" color display
tilts to allow you to work in
either portrait or landscape.
Includes 8-bit video card for
Mac IIx, SE/30, LC or NuBus™.



NEW!
On-Site
Service!

\$679

VERY LIMITED
SUPPLY!

Lind
Charger/Conditioner



The Lind BC-4070 Battery Charger-Conditioner is specifically designed for NiCd batteries used in Macintosh PowerBooks™. It gives the user the option of discharging the battery prior to charging, thus preventing or correcting loss of capacity due to "Memory Effect."

\$89

SHARP
JX9600PS
LASER PRINTER

THE IMAGE
ENHANCER



- RISC processor with 8-ppm speed
- 600dpi quality at 300dpi price!
- Two 250-sheet paper trays
- High Resolution Technology for the sharpest 600dpi printing
- 35 built-in PostScript fonts
- 2MB RAM standard, upgradeable to 9MB
- Automatic interface switching for total flexibility

\$799



**POWER
MODEM IV**

External 14.4kbps send and receive fax and data modem. Includes integrated OCR from Caere as well as FAXcilitate™ software that provides everything you need to create, transmit and edit faxes. FAXcilitate's fax menu is located in every application's menu.

\$289



maxell

DS/DD 10-pack \$7.99
DS/HD 10-pack
\$10.99

MAXELL is proven reliability in disk media, with a full lifetime replacement warranty. New Maxell Super RD II Series disks feature an energy saving formulation for optimum performance. Double sided, high density, conveniently pre-formatted for Macintosh applications.

MASS
microsystems
QuickImage 24
Video Frame Grabber Card



EXCLUSIVE — This great closeout Frame Grabber captures fast moving, full motion video images in 24-bit color or 8-bit grayscale. With special image filters, you have the ability to enhance all or portions of an image with blur, sharpen and solarize. Quick-Time™ compatible! Hurry on this unbelievable blowout!

\$99

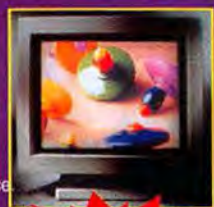
RASTEROPS
THE ART & SCIENCE OF COLOR™

**20/20 Multimode
Color Display**

The RasterOps 20/20 is a full color 2-page solution at an affordable price.

- 31mm super fine dot
- Supports 640x480 to 1158x870
- Anti-static/glare coating
- Digital user controls

3-YEAR LIMITED WARRANTY



\$1299

**Newer
TECHNOLOGY**



For really slick processing,

Newer has all the memory you need.

For serious acceleration, Newer has the best kind of SIMM memory. The kind you can count on to work. Newer's 32-bit SIMMS were the first available for the Mac market. Newer also provides toll-free technical support and a 30-day money back guarantee! Newer has SIMMS for every kind of Mac! Call for the lowest pricing on Newer Technology memory products.

MacMall Policies

Prices listed do not include shipping or insurance. "Next Day" shipping is available only on orders placed before 5:00 pm EST and may exclude certain rural areas. \$3.00 shipping offer applies to the U.S. only and orders over 10 pounds incur additional shipping charges. Call Customer Service at (310) 787-4520 for a Return Authorization if necessary. All returns without an authorization number (RA#) will be refused. Returned products must be in original condition and packaging, with blank warranty card, and must be sent back within 30 days of our invoice date. No refunds on labor or freight charges. Prices and availability subject to change without notice. Some items limited to stock on hand. Not responsible for typographic or photographic errors. If ordering by mail, include your name, street address, and telephone numbers, and send to MacDepot 2645 Maricopa St., Torrance, CA 90503. Makes checks or money orders payable to MacDepot. If ordering by credit card, include expiration date and billing address. California residents (only) add 8.25% state sales tax. **MAC DEPOT WAS FOUNDED IN 1985.** All trademarks or registered trademarks are used to benefit and without intent to infringe on the mark holder. © '93 MacDepot.

**NO CREDIT CARD
SURCHARGES!**

MacMall

Accelerate Your Mac!



**With
TOKAMAC!**



The Highest Rated Macintosh Accelerator on the market comes from the company that pioneered 68040 acceleration. TOKAMAC products from Fusion Data Systems! **It's fun to go fast!**

040 40MHz w/128k Cache (Ili) ... **\$1595**

040 33MHz w/128k Cache (Ili) ... **\$1395**

040 33MHz w/128k Cache (Ilf) ... **\$1795**

040 25MHz w/FPU **\$799**
(Ili, Ili, SE/30, LC, LCII)

CORDLESS SUPER MOUSE
and Snooper 2.0 Lite BUNDLE



High-quality infrared cordless mouse is Macintosh ADB compatible but is self-powered. Includes recharger mouse station. PLUS highly-rated SNOOPER 2.0 Lite Edition.

\$39

KENSINGTON

**World's Best
Trackball!!**

Two large control buttons with intelligent software to program custom commands and functions.

\$99

**TURBO
MOUSE 4.0**



We're not like the other We'll give you more

Macintosh Systems



Whether you need a system for high-end color publishing, professional pre-press applications, desktop design and production or simply business productivity – Express Direct can custom configure a Mac System that's right for your specific job and right for your budget.

And remember, all Macs aren't created equal! At Express Direct we do more than take orders and ship boxes. We install the memory, video card and system software. Then we test every System – so all you need to do is plug it in! And only Express Direct gives you Toll-Free Technical Support with every Mac!

\$2199

Apple Centris 650
8MB RAM, 230 MB HD, includes Ethernet & FPU. • Add E-Machines 16" trinitron display with accelerated 24 bit color card, Apple Ergo Adjustable Keyboard & System 7.
Complete System \$4099

Call about new Quadras!



\$1799

The Umax UC1260 offers incredibly accurate 1200 dpi scanning in 1 to 24-bits of color. Shown with optional transparency adapter.

UMAX®

From affordable 24-bit color at under \$900, to top-of-the-line, 1200 dpi performance, Umax offers a scanner for every need and budget. With Adobe Photoshop for image editing and manipulation and an optional transparency adapter for scanning slides and transparencies, Umax scanners bring professional power to the desktop!



\$689

The PLI 105mb removable drive gives you unlimited storage and unprecedented speed in a compact 3.5" syquest format.

PLI

Since 1985 PLI has been the most trusted name in storage. The combination of speed, capacity and reliability – all at a low price – has made PLI removable syquest drives the industry standard. For mass storage needs, PLI also offers a complete line of optical drives and mini-arrays with capacities up to 4.2 gigabytes. Demand performance and reliability. Demand PLI.



\$3999

newgen

The new high-resolution, edge-to-edge Newgen Inager 6L produces 600 dpi, 11x17" production quality output.

Newgen's superior engineered products bring high-resolution, "service-bureau-like printing" to the personal printer. Newgen's proprietary Image Enhancement Technology produces incredibly crisp output normally found in printers at twice the price. And patented Auto Recognition Technology allows all Newgen printers to be attached to multi-platform networks for maximum flexibility and compatibility.

We stock a complete line of quality products from all of the above manufacturers & more.

1-800-765-0040

Express Hours (central time) M-F 8am-7pm, Sat 10am-2pm • 24hr Fax

Get it
Direct!

mail order companies. than a sales pitch.



We'll give it to you straight.

When it comes to product knowledge and understanding the needs of graphic professionals – **nobody even comes close to Express Direct.** Not the other mail-order companies, not the superstores, not even your local dealer.

When you call us - **you'll talk with an expert.** Someone who's done their homework, knows the product, knows what they're talking about. Not an order-taker, like you get with the other mail-order companies.

We carry only top-notch products from the industry's best manufacturers. No garbage. You demand quality and so do we. What's more, our strict criteria for selecting products means we always get the lowest price – directly from the manufacturer. So **nobody can give you a better value** than Express Direct.

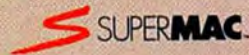
But that's just the beginning. With customer service and technical support that's the best in the industry, we make it our business to take care of you. All this is just a free phone call away. So, call Express Direct today. **You're going to love working with us!**



a \$2589

b Call

SuperMac Thunder 24 (a) "the fastest 24-bit card" & the award winning 20" x 20" Trinitron (b)



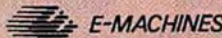
For color publishing & pre-press, nobody delivers more power and performance than SuperMac. SuperMac's 24-bit graphic accelerators constantly sweep MacWorld magazine's top 3 ratings for the fastest cards on the market. SuperMac's large screen displays are tailored to the demands of the graphics professional.



a \$1229

b Call

E-Machines razor-sharp T160 (a) & the affordable accelerated 24-bit color interface, Futura SX (b).



E-Machines is unquestionably the best value in color. Offering an unmatched combination of performance and price, E-Machines video cards give you all the features and speed – at half the price. Plus E-Machines displays have set the industry standard for quality. Now you can have the performance you demand at a price you can afford.



• Flexible payment & leasing terms for those who qualify



International Orders Shipped Daily
Fax: 312.549.6447 Ph.: 312.549.0030

1801 W. Larchmont Ave., Chicago, IL 60613 USA



"The Color Experts"

Apple/Mac are trademarks of Apple Computer. Prices are subject to change without notice. All returned orders may be subject to a 15% restocking fee plus return shipping. Call for RMA before returning.
* All warranties on Macintosh or Apple brand products sold by Express Direct will be honored by Express Direct or its authorized agents only. All other manufacturers' warranties still apply.

CIRCLE 124 ON READER SERVICE CARD.

MICROTECH INTRODUCES

MICROTECH PRIORITY 1 SERVICE

Microtech doesn't just sell you great products at great prices, we back every purchase with award-winning Microtech Priority 1 Service:

PRIORITY 1 TRADE-UP — Looking for a 300MB drive today but you might need a 1GB next month? With the Microtech Priority 1 Trade-Up, you can apply 35, 60, 80, even 100% of today's purchase cost towards your next drive.*

LIFETIME TOLL FREE TECH SUPPORT — Need top-notch help installing and using your drive today and tomorrow? Priority 1 Service means our toll free tech support team answers your questions for the life of the drive.

MICROTECH PRIORITY NETWORK — Check on technical specs at two in the morning or learn about memory compatibility from the pros? Priority 1 access to our full service, full time BBS comes with every drive we ship.

CASE CONVERSION — Upgrading to another Microtech drive but not sure what to do with the old one? Priority 1 customers can arrange conversions from internal to external or external to internal for a minimal fee.*

Sounds good, but what if your drive needs service? Microtech Priority 1 Service backs you with:

ADVANCE REPLACEMENT — Eliminate downtime with a Priority 1 replacement shipped the same day you're issued an RMA.*

48 HOUR REPAIR TURNAROUND — Priority 1 Service means we turnaround your repair in two business days or less.

DATA RECOVERY — We'll do our best to recover the data on your drive, but if we can't, Priority 1 customers receive a special discount on service from a premier data recovery resource.*

EXTENDED WARRANTY — Want to guarantee Priority 1 Service for more than the two or three years included with Polaris and removable drives? Sign up for an extra year at an affordable rate.*

MICROTECH PRIORITY 1 SERVICE — We bundle it with every drive because we know it's what's behind the drive that counts. **CALL 1-800-626-4276** to get the complete story.

Dial up the Microtech Priority Network,
our full service BBS at 203.469.6430.



FAX: 203.468.6466 • Monday – Friday 8AM – 6:30PM EST • Visa/Master Card
International: 203.468.6223 • Fax 203.467.8124

800.626.4276

THE ULTIMATE BUNDLE



POLARIS HARD DRIVES

	INTERNAL	EXTERNAL
Maxtor 245	\$289	\$359
Quantum 525	\$669	\$739
Quantum 1050	\$969	\$999

TAPE BACKUP SYSTEMS TRITON DAT 4GB/8GB



TRITON DAT DDS-1 4GB

\$1199

TRITON DAT DDS-2 8GB

\$1799

	TAPE SIZE	CAPACITY	AVG TSFR SPD
4GB	90M	4-6GB	10MB/min
8GB	120M	8-12GB	22+MB/min

DRIVES & MEMORY FOR POWERBOOKS

Upgrade your PowerBook or Duo with a Roadrunner 200i or 320i internal drive, use its original drive in a Roadrunner DataXpress Case. Add a 10MB memory upgrade for the ultimate in portable power.



POWERBOOK DRIVES, MEMORY AND CASE KITS

	INTERNAL	W/10MB COYOTE MEMORY	W/RRD XPRESS EXT CASE
RR200i	\$469	\$938	\$538
RR320i	\$659	\$1128	\$728



MICROTECH
INTERNATIONAL, INC.

Leaders in Mass Storage and Memory Since 1985

*Certain conditions and restrictions apply. For complete details, call, fax or write Microtech International, Inc.
©1993 Microtech International, Inc. 158 Commerce Street, East Haven, CT 06512 All trademarks or registered trademarks are the property of their respective owners. The five year warranty, where offered, applies to products sold, delivered and used in the U.S. and Canada only. Two year warranty applies to export products. Microtech reserves the right to change prices and specifications without notice.

CIRCLE 119 ON READER SERVICE CARD.

MU1293

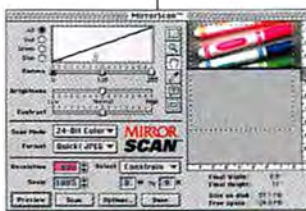
When Macworld's experts tested a field of 14 color scanners, they concluded that you don't have to pay a lot to get a good scanner, you just have to call Mirror.

The Best Hardware

Mirror's award-winning scanners start with a precision three-pass scanner engine for superb color registration and sharpness. Then we add hardware pre-scan gamma correction for top quality results in much less time. The Mirror Color Scanner is available in 600, 800 and now 1200 dpi models to fit every budget.

The Mirror Color Scanners can also scan slides and transparencies. Simply replace the standard cover with the optional

Transparency Adapter and you are ready to scan transparencies up to 8.5"x11.7."



MirrorScan's powerful features make scanning a snap

The Best Software

Having great hardware doesn't get you much unless you've got great software.

Our exclusive MirrorScan software delivers. No other scanning software can match

our features. From full-color previews and interactive gamma controls, to built-in JPEG



Mirror Color Scanner
\$1099
 from
 (includes Photoshop 2.5 and Read-It! OCR)

and Fast-Eddie compression, user-definable custom selections and support for EPS, TIFF and PICT file formats, MirrorScan makes it easy to get great scans.

Every Mirror 600, 800 and 1200 scanner includes the Plug-in, application and desk accessory versions of MirrorScan, along with a full version of Adobe Photoshop 2.5 and Read-It! Pro 3.0 OCR.



MACWORLD CALLS IT A BARGAIN. WE CALL IT THE MIRROR COLOR SCANNER.



**Mirror Coolscan
Slide Scanner**
\$1999
 complete

The Coolest Scanner Of All!

If you need to scan 35mm slides, you'll want to check out the new Mirror Coolscan™ ZFP System. Based on the amazing Coolscan technology from Nikon, this scanner is the first to bring professional quality color scans to your desktop for under \$2000! Its remarkable color sensitivity, patented solid-state light source and 2700 dpi resolution will bring your work to life with stunning scans from slides or negatives.

The Mirror Coolscan is the same size as a standard hard drive and includes everything

you need to start scanning right away.

The Coolscan application and Photoshop Plug-in module incorporate sophisticated image controls for top notch results every time.

The Best Deals

Don't pay dealer markup! Buy direct from Mirror and keep the savings for other cool stuff. Every Mirror product is backed by our 30-day "love it or return it" satisfaction guarantee.

CIRCLE 118 ON READER SERVICE CARD.

Mirror Color Scanners

600 dpi w/Photoshop and Read-It!	\$1099
800 dpi w/Photoshop and Read-It!	\$1299
1200 dpi w/Photoshop and Read-It!	\$1799
Transparency Adapter for 600/800 models	\$ 599
Transparency Adapter for 1200 model	\$ 699
Mirror CoolScan Slide Scanner	\$1999

Order Direct Anytime
800-643-3382

Media: 1057

MIRROR
 The best thing next to your Mac™

305 Second Street N.W., St. Paul, MN 55112 USA phone: 612-633-1450
 fax: 612-633-3130 tech support: 612-633-2105



*November 1993. All prices subject to change.
 Prices are for US orders only, call for international pricing.
 ©1993 Mirror Technologies. Coolscan is a trademark of Nikon, Inc.
 All trademarks are property of their respective holders.

MacLand®

Since 1987

Your No. 1 Removable Media Source!

FWB All MacLand Hard Drives are bundled with the **FWB Personal Tool Kit, FREE!**

**44 Megabyte
Removable Hard Drive
\$249**

**88c Megabyte
Removable Hard Drive*
\$349**

The 88c drive will read and write 44MB cartridges, but will not format 44MB cartridges.

HARD DRIVES

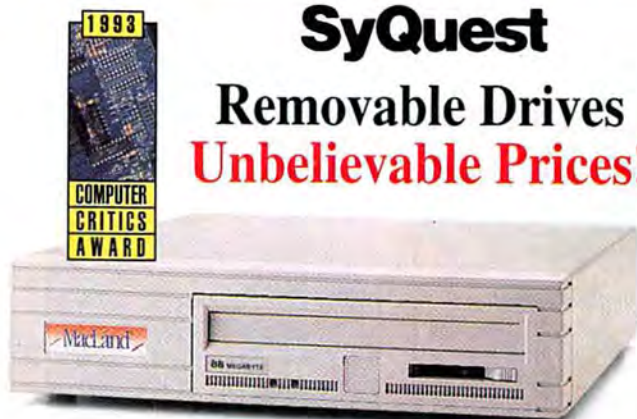
QUANTUM	Internal	External
85MB	\$169	\$219
170MB	\$199	\$249
240MB	\$279	\$329

MEGA HARD DRIVES

QUANTUM INTERNAL	
1 GIG	\$899
1.2 GIG	\$999
QUANTUM EXTERNAL	
1 GIG	\$949
1.2 GIG	\$1,049

SyQuest

**Removable Drives
Unbelievable Prices!**



FORMATTED
SyQuest Cartridges
44MB | 88MB
\$59 | **\$90**
Any quantity!

SyQuest

**Orion MacScan's 14"
Color Monitor**

**30 Day
Money-Back
Guarantee!**

OVERSTOCK SALE!

Only \$289



**150 Iomega Mac Transportable
Removable Drive**

\$589 (Comes with one Cartridge)
Individual 150 Cartridges-\$95 ea.



**2 Year
Warranty**

**90 Iomega Mac Transportable
Removable Drive**

\$499 (Comes with one Cartridge)
Individual 90 Cartridges-\$79 ea.

Removable Drive Cost-Per-Megabyte Chart

Removable Drive	Price	Cost per Megabyte
44 MB-\$249 ⁰⁰ + \$59 ⁰⁰ =	\$308 ⁰⁰	or \$7 ⁰⁰ per MB
88c MB-\$349 ⁰⁰ + \$90 ⁰⁰ =	\$439 ⁰⁰	or \$4 ⁹⁹ per MB
150 Mac Transportable (Cartridge included)	\$589⁰⁰	or \$3⁹³ per MB BEST DEAL!

Products subject to availability/Prices subject to change.

MacLand®

1-800-333-3353

4685 S. Ash Ave., Suite H-5 • Tempe, AZ 85282



24HR. FAX
(602) 345-2217

CIRCLE 152 ON READER SERVICE CARD.

YOU'D BUY FROM US EVEN IF WE

\$50

MEMORY

1x8x80



*Prices are subject to change

1x8x80	50
1x8x80 (fx)	57
2x8x80	79
4x8x80	148
4x8x80 (fx)	152
4x8x80 (11/11x)	182
16x8x80 (High Profile)	642
16x8x80 (Low Profile)	709
16x8x80 (fx)	585
Mac Portable 3MB/4MB	410/449

Centris & LCIII - 70ns/ Quadra 800 - 60ns

4MB - 70ns/4MB - 60ns	169/199
8MB - 70ns/8MB - 60ns	342/399
16MB - 70ns/16MB - 60ns	619/829
32MB - 60ns	2,059

POWERBOOK MEMORY

PB140-170-4/6	199/299
PB160-180-4/6/8/10	215/275/499/599
PB165C/180C-4/6/8/10	239/342/529/629
DUO-4/6/8/10	215/289/359/519
DUO 12/20	605/1,665

POWERBOOK NEEDS

Battery Charger/Battery 140-180	135
Global Village PowerPort Gold	389
Duo Dock FPU	69
Targus Carrying Case for PB	32

MODEMS

SUPRA



v.32bis S/R Fax 14.4w/cbl & SW	225
v.32bis S/R Fax 14.4LC NEW!	165
2400 Modem ONLY (NO CABLE)	59
Fax 2400/9600/9600	139
Supra V.32bis PowerBook 14.4	279

DOVE



Dove Fax Pro 14.4 + Voice	369
Dove Fax 144E	235
Dove Fax PB 24/96/48	99

MORE MODEMS

GLOBAL VILLAGE	
TelePort/PowerPort GOLD 14.4	389
Teleport SILVER 96	319
PowerPort SILVER 96	339
PowerPort BRONZE 24/96	179
Teleport Bronze II 24/96	99
U.S. ROBOTICS Sportster 14.4 Mac	237
PRACTICAL PERIPHERALS 14.4	239
HAYES Accura 2400bps Data	79
HAYES Accura 9600bps Fax 96	247
HAYES Accura 14.4bps Fax 14.4	269
ZOOM 14.4 v.32 bis Fax w/softwr	275

DRIVES

PLI



PLI Infinity 105 Turbo

\$669

Infinity 105 Turbo	669
PLI Super Floppy	319
Infinity 44 Turbo	365
Infinity 88RW44	589
PLI Multi-Session CD-ROM Ext.	609
PLI Multi-Session CD-ROM Int.	509
PLI 3.5" 128 Optical (Sony)	1,219
PLI 3.5" 128 Optical (Fujitsu)	1,159
PLI 650 MB Optical	2,449
PLI 1GB W/4MB Cache	3,309
PLI 4GB DAT W/Retrospect	1,469

PLI Multi-Session
CD-ROM

\$609



PLI 1GB Turbo
External Hard Drive

\$1,479

PLI 540MB Turbo External	1,049
PLI 540MB Turbo Internal	949
PLI 1 GB Turbo External	1,459
PLI 1 GB Turbo Internal	1,369
PLI 1.2GB Turbo External	1,629
PLI 1.2GB Turbo Internal	1,459
Quick SCSI NuBus Card	329
PLI 1GB Disk Array External	2,339
PLI 1GB Disk Array Internal	2,069
PLI 2GB Disk Array External	3,139
PLI 2GB Disk Array Internal	2,939



MEDIA

SAMSUNG

650Mb Optical Cart.

\$99

128 Optical Disk 3.5"	35
600 Optical Disk 5.25" (512b/s)	99
650 Optical Disk 5.25" (1024b/s)	99



VERBATIM

128Mb Optical Cart.

\$39

Optical Cart/Verbatim 128MB	39
Optical Cart Verbatim 650Mb	109
Bernoulli 40MB Cartridge (3 Pack)	285
Bernoulli 90MB Cartridge (3 Pack)	399
Bernoulli 150MB Cartridge (5Pack)	499
Floptical Disc 21 MB	24
We stock DAT tapes	CALL

SyQuest 44MB

\$61

SyQuest 44MB Cartridge	61
SyQuest 88MB Cartridge	95
SyQuest 105MB Cart.	85

SCANNERS

UMAX

ScanOffice	859
UC630 600 Dpi Color	1,159
UC840	1,339
UC120 1200 Dpi Color	3,099

MICROTEK

ScanMaker II Color	889
Scan Maker IIXE Color	1,159

NETWORKING

Asante MacCon 3 Th/Tr/10-T	239
Asante EN/SC Th/Tr/10-T	309
Asante MINI EN/SC 10-t PowerBook	269
Call for Complete line of Asante products.	
Dayna LC/LCI/LCIII Tr/10-T	159/159
Dayna Friendly Net Tn or 10-T	69
Dayna Etherprint 10-T	349
Call for Complete line of Dayna products.	

Of course we do a great job, but here are more reasons to buy from The LLB Company:

- Knowledgeable and friendly sales force.
- First quality, new & brand-name products.
- Saturday delivery at no extra charge.
- Lifetime warranty on all memory products.
- All major credit cards accepted with no surcharge.
- P.O.'s accepted upon approval.
- Customer service guaranteed, You can depend upon us for Quality, Service and Value.
- Credit card not charged until day of shipment.

COMPARE OUR SHIPPING PRICES - AIRBORNE EXPRESS OVER NIGHT \$6 AND UP • UPS GROUND \$5 AND UP

Orders received before 7:30 PM Eastern time weekdays ship the same day. • We export to most countries in the world. 2-3 days delivery to most countries. • Prices subject to change. Quantity pricing for dealers. • All returns require approval and are subject to a restocking fee. • American Express, Visa, MasterCard, & Discover Cards gladly accepted.

DIDN'T HAVE THE LOWEST PRICE!

MORE DRIVES

Quantum 85 PRO/127 PRO	179/205
Quantum 170 PRO/240 PRO	235/289
Quantum 525/1.2 Gig. PRO	719/1,255

FWB, INC.

Hammer 525FMF/1000FMF ...	1369/1779
Internal 525FMF/1000FMF	1109/1509
SCSI Jack Hammer	769
FWB Hard Disk Tool Kit Sftwr.	159
CD-Rom Toolkit	65

PINNACLE MICRO

PMO 650MB Optical Drive	2,969
PMO TAHOE 128 MB	949
Recordable CD-ROM Drive	3,599
Sierra 1.3Gb Optical NEW!	CALL

MAC NEEDS

SIMMs Installation Toolkit	8
SIMM Remover	3
Video-RAM 256K/512K	31/50
Mac Pro Plus Keyboard	129
Kensington Turbo Mouse	106
LC/Classic 16mhz Math CoProcessor 59	
LCIII -FPU/ Centris	79/369
WristSaver/ Mousepad	12/12
AXION 3port Serial Switch	125

WACOM (Others models Available)

ArtZ Tablet	315
12x12 Digitizer Tablet	689

PRINTERS

QMS 860 Hammerhead	4,239
QMS 1725	4,549
GCC WriteMove II Portable Printer ..	519
GCC PLP II Quick Draw	689
GCC BLP Elite	849
TI-PS17/PS35	1,165/1,299
CoStar Labelwriter I/II+	185/229
Supplies - HP Printer Supplies	CALL

MOBIUS



Outperform new Macs with the Speedster!

Apple's Quadra and Centris use the '040, and now you can put '040 power in your Mac for one third the price. Speedster instantly gives Quadra power you'll notice right away. Instant screen redraws in PageMaker, Freehand, and QuarkXpress; super fast previews with Illustrator; speedy recalcs in Excel; and blazing special effects with Photoshop. Optional 128k cache boosts speed another 20-40%.

040 Speedster 25/25 W-FPU	625/799
040 Speedster 33/33 W-FPU	725/889
040 Speedster 40 W-FPU	1,345
Adapters for IIsi, IIfx, IIfx, SE/30	49
Optional 128k cache	179

Mobius' 68030 accelerator boosts SE performance 6 to 8 times. Supports up to 16MB; all the performance you need to run even the most powerful applications.

030-25Mhz SE/Classic	349/419
SE 030-33 Mhz	389

ACCELERATORS APPLIED ENGINEERING

TransWarp LC030-40Mhz	379
SE/Classic 030-25Mhz W-FPU ...	199/309
SE/Classic 030-40Mhz W-FPU	299/429
040 25/33/40	809/989/1219
Quadralink/ W-DMA	209/339
Plus Drive (3.5" 1.44Mb Floppy)	289
Quick Silver IIsi 32k Cache Card	209

NEWER TECHNOLOGY

Variable OverDrive	269
MicroDock SCSI	135
MicroDock Color	259

DAYSTAR DIGITAL



NEW! Turbo 040 Accelerators

Get the maximum in 68040 acceleration with all the compatibility of the PowerCache. The effective way to increase your productivity up to four times as fast! Optional 128k cache boosts performance another 4-50%.

25 Mhz Turbo 040	949
33Mhz Turbo 040	1,125
FastCache Turbo 040	172
040i 20Mhz Turbo NO FPU	699
040i 25Mhz Turbo NO FPU	779
040i 33Mhz Turbo NO FPU	869
FastCache Quadra (700/900 Only)	249
FastCache Quadra (ALL QUADRAS)	349
RAM Power Card	430
Charger/ Charger PLUS	505/649

Universal PowerCache

The PowerCache is an award winning design that gives you affordable 68030 performance and the best in compatibility. Just plug it in and go... no downtime and it works with everything. Upgradable to Turbo 040.

33Mhz/33Mhz w/FPU	345/435
40Mhz/40Mhz w/FPU	519/605
50Mhz/50Mhz w/FPU	649/759
Adapter Se & Classic/ Others ...	129/105
Combocache IIsi/ w/FPU	215/301
Equilizer LC/ w/FPU	172/241
DualPort IIsi w/20Mhz FPU	172

DAYSTAR

D I G I T A L

RASTEROPS® THE ART & SCIENCE OF COLOR™



DISPLAY & VIDEO PRODUCTS

PaintBoard Turbo 20", 16", 13"	1,179
PaintBoard Li 20", 16", 13"	809
24XLi 21", 16", 13"	1,869
24STV	749
24MxTV	1,649
24XLTV	2,619
Movie Pak Daughterboard	749
Editing Aces Suite	2,919

MONITORS

RasterOps Sweet 16 Bundle	1,609
Sony 14"/17" MultiScan	669/1,189
Sony GDM 2036s 20" MultiScan ..	2,299

DUO DOCKS

DUO Mate 8 8bit Video	409
Duo Mate 16SC 16bit Vid. W/SCSI ...	529



THE LLB COMPANY

100 120TH Ave. NE Bldg 1, Suite 120
Bellevue, WA 98005
(206) 454-7258

7am to 6pm M-F & 9am to 4pm Saturday
Email to Compuserve @ 73423,1272

FORTUNE 1000 CO.

EDUCATIONAL/GOVERNMENT.

BUSINESS/INDIVIDUALS.

FAX YOUR ORDER.

800-848-1418

800-848-1424

800-848-8967

206-454-7302

CIRCLE 88 ON READER SERVICE CARD.

MacWAREHOUSE

1-800-255-6227

Fax orders: 1-908-905-9279

**ORDER
UNTIL
MIDNIGHT(EST)
FOR
OVERNIGHT
DELIVERY**

**OVERNIGHT
DELIVERY
ONLY \$3.00**



SuperDoubler

SuperDoubler combines the functionality of our best-selling compression products, AutoDoubler, DiskDoubler, and CopyDoubler into one integrated package.

SuperDoubler gives you automatic background compression, manual compression options, Self-Extraction Archives, speedy Finder copying, seamless background operation, and much more!

Publisher:
Fifth Generation Systems
UTI0447



\$69

TouchBase Pro/DateBook Pro Bundle

NEW! The award winners just got better. TOUCHBASE and DATEBOOK have turned PRO! Now, a contact manager that provides power and ease of use, and a time manager that has the flexibility to track all your daily activities. With TOUCHBASE PRO, you can manage your contacts, dial your telephone, write letters, and print address books, labels, envelopes and fax covers. DATEBOOK PRO combines calendars, appointments, To Dos, alarms and reminders to keep you on time. Best of all, TOUCHBASE PRO and DATEBOOK PRO are completely integrated. Together they form the BEST in personal information management.

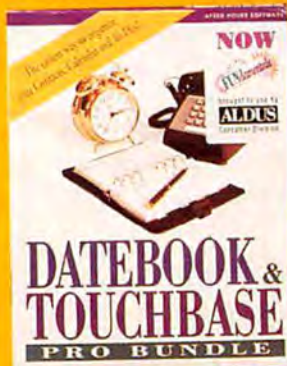
Publisher: Aldus BUS0299

Also available: TouchBase Pro DAT0104 \$49, DateBook Pro BUS0298 \$49 and TouchBase Pro/DateBook Pro/Quicken Bundle BUS0349 \$99⁹⁵

ALDUS



\$89



MiniCad+4

MiniCad+4: An unsurpassed mix of ease of use and powerful features defines MiniCad+4. The award-winning MiniCad+ combines 2D CAD, true 3D CAD, a database/spreadsheet, programming language, intelligent interface and AutoCAD translator into one program. New features include 3D walkthrough and flyover tools, tolerancing, automatic roof, wall, and floor tools, and more. CAD0030 \$499⁹⁵

Blueprint 4*

Blueprint 4 makes drafting and design easy for architects, engineers and illustrators. The new version 4 incorporates all the professional 2D features found in MiniCad+4. The price/performance ratio is absolutely unbeatable. Try it on Manufacturer's 30 day money-back guarantee!

CAD0024 \$199*

Publisher: GraphSoft

\$199*

SoftPC Professional 3.1



5.0 pre-installed and is ready-to-run on your Mac. Requirements: Suitable for the MacII cx, ci, si, fx, PowerBook, Performas and all Quadra computers.

Publisher:
Insigila Solutions
COM0186

\$199⁹⁵

Moriarty's Return

NEW! He's...back!...in an all new detective game of global pursuit. Two divisions: 1) for children and 2) more challenging one for experienced sleuths. Over 1200 clues-most in rhyme-relating to 61 countries. Piece together a sketch of the criminal in the hilarious Sketch-a-Wretch notebook and pick him out of a lineup. Fully animated in 256 frightening colors or b&w. Information Please Almanac included!

Publisher:
Mysterium Tremendum
ENT0538

\$38

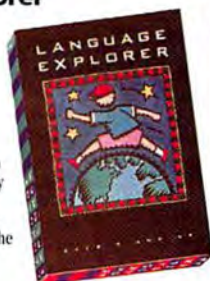


Language Explorer

Animate the discovery of language in English, French, German and Spanish. Languages are presented in 42 topics, with over 500 colorful, animated pictures. Simply select a topic and language, then match words to pictures. Five levels of difficulty add new challenges-from the basic exploration of Beginner, to all languages and topics at the Polyglot level! All ages.

Requirements: Color Mac, System 6.0.7 or greater.
Publisher: Nordic Software
EDU0490

\$32



Practica Musica 2.4

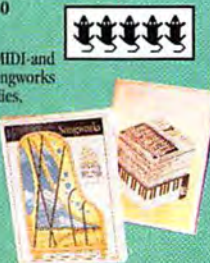
Practica Musica is an interactive music tutor for both beginning and advanced students. An "Eddy Award" winner with MacUser's top "5 mice" rating, it covers both music theory and ear training, works with or without MIDI, and includes a textbook. MUS0020

Songworks 1.3

Play a tune-with or without MIDI-and see it notated automatically! Songworks suggests chords, invents melodies, transposes, plays, prints (one staff of melody, chord symbols, lyrics). "Eddy Finalist," 1992.

MUS0120
Publisher: ARS Nova

\$69^{ea.}



WristSaver or WristSaver MousePad

The WristSaver cradles your wrist with a contoured neoprene rubber pad and a washable nylon covering. It's ergonomically designed to support your wrist at the

proper angle to help avoid the pain associated with Carpal Tunnel Syndrome. The WristSaver MousePad (8" x 9.5") provides a comfortable rest for your wrist, plus a conventional mouse pad. Simple finger movements replace sliding the entire arm or hand. **Manufacturer:** LB Innovators

ACC0560 WristSaver (Red)

ACC0635 MousePad (Red)

Available in Gray, Black, Red or Navy. Please specify color.

\$15^{ea.}

Star Trek 25th Anniversary

Pilot the famous U.S.S. Enterprise on a wild ride through the final frontier. This exciting game combines a realistic 3D space flight simulator with role-playing adventures featuring the Star Trek team. Control phasers, photon torpedoes, shields, communications, warp drives. Beam down to alien worlds. Come face-to-face with dozens of alien races. Complete with musical score and digitized sound effects.

Requirements: Color Mac with 1500K free memory; System 6.0.7 or later.

Publisher: MacPlay
ENT0578

\$35⁹⁵



Crossword Creator

Create crossword puzzles quickly and easily. Just enter the words to instantly generate a puzzle. Build/save dictionaries for use in future puzzles. Includes Roget's Thesaurus with wild card search. Print your puzzles directly or export desktop publishing files. ENT0440 \$39.



Letter Drop*

Form falling letters into words. Combines hand-eye coordination, vocabulary, and spelling. Fun and challenging for all ages with multiple game variations and levels. Colorful graphics with word-picture association reinforce learning. Use built-in dictionaries or import your own.

ENT0602 \$25⁹⁵
Publisher: Centron Software

\$25^{95*}

MacWAREHOUSE TOP 10!

1. QuarkXPress 3.2 with FREE Kudo Image

Browser and ClickArt Business Art
Ask for item # BND 0224 **\$599**

2. Adobe Photoshop 2.5

Ask for item # GRA 0430 **\$549**

3. Adobe Illustrator 5.0 Upgrade

Ask for item # UPG 0043 **\$199**

4. Aldus PageMaker 5.0 Upgrade with 57

FREE Monotype Typefaces and Type F/X

Ask for item # UPG 0032 **\$149**

5. Power User 44MB Syquest Cartridge

Ask for item # MED 0035 **\$75**



6. Microsoft Office 3.0

Ask for item # BUS 0285X **\$375***

7. Microsoft Word 5.1

Ask for item # WRD 0059 **\$295**

8. Power User Double-Speed CD-ROM

Ask for item # CDR 0072 **\$299**

9. Claris FileMaker Pro 2.1

Ask for item # DAT 0112 **\$269**

10. TCI 14.4 Send & Receive Data Modem

with FREE Accuweather

Ask for item # BND 0249 **\$99**



*The price of \$375 for Microsoft Office reflects \$100 Manufacturer's REBATE by mail direct from Microsoft. Price without rebate is \$475. Rebate offer expires 11/30/93. Your Microsoft Office package will include information on how to get your \$100 REBATE direct from Microsoft.

(8. PU Double-Speed CD-ROM)

Order toll-free anytime!
1-800-255-6227

Business Plan Toolkit

Business Plan Toolkit works with your spreadsheet and contains a menu-driven text guide, financials and business charts, fully-linked forecasts, cash flow, P&L, balance, and ratios. The manual covers not just the software but also the related problems of

information gathering, planning and implementation. FIN0116

Marketing Plan Toolkit

Finally! An organized methodology for planning and managing the marketing process from strategy to implementation. Requirements: Excel, Lotus 1-2-3 or compatible spreadsheet. BUS0326

Publisher: Palo Alto Software

\$75 ea.



4th Dimension Competitive Upgrade

You've tried the rest, now step up to the best! Do you need to see the many to the one? Would you like to be able to produce relational reports, graphs, and labels quickly? Will you require multi-level searches and sorts? Search by example? If the answer is YES, step up to the leader in Relational Data Management—4th Dimension. Preserve your current investment in data and knowledge—Importing your current information is just a double click away! ASCII, text, sybk—Filemaker Pro, Excel, Foxbase Mac etc... NO PROBLEM! Publisher: ACI US Inc. SID0057

\$299

Wiz Tools

These 9 powerful System 7 enhancement modules are jam-packed with helpful time savers. Modules include a synchronization and backup module, hierarchical menus, a keystroke recorder for registering your keyboard input all day long, a simple but effective folder watching system, a customizable clock for the Desktop, PowerBook utilities (including battery level indicator), direct access to frequently used items, new shortcuts for the Finder, and more... The powerful backup/synchronization module alone, makes this product a great value!

Publisher: ASD Software UT10414

\$75



Security Trio

Take FileGuard, TrashGuard & FileDuo together and save! Publisher: ASD Software UT10423

\$149⁹⁵

FileGuard 2.7—"It's sleek, fast and safe. I highly recommend it." MacUser. Protect your hard drive, applications, files, and folders (including System Folder) from erasure, unauthorized access (including security bypass with a System diskette), deletion, and illegal copying. UT10135

\$139

TrashGuard—Delete files forever, with TrashGuard. Using the Trash Can to delete a file only makes the space available, but does not erase data. TrashGuard not only deletes files, it actually removes them from your hard disk. It even complies with D.O.D. standards! UT10322

\$49

FileDuo—Backup your important files quickly and automatically! FileDuo creates backups any time you want: every 5 minutes, at a specific time, or when you shut down your Mac. Backup your choice of files or folders, your entire hard disk or other mounted device. UT10323

\$89



Eco-Adventures: In the Oceans

Eco-Adventures: In the Oceans puts you aboard a research vessel to explore the Oceans of the World. Digitized sounds and full-color underwater images bring the aquatic plants and animals to life on your Mac. EDU0337

Eco-Adventures: In the Rainforest

This challenging game simulates the environment of a tropical rainforest. With the aid of a guide, maps, and equipment, you'll travel through the rainforest, experiencing the digitized sounds and full color images of endangered species. EDU0336

Both come with a FREE full color poster and require a hard disk & 2MB RAM. Publisher: Chariot Software

\$35 ea.



I'm Kerry, call me at:

MacWAREHOUSE®
1-800-255-6227

(1-800-ALL-MACS)

Inquiries: 908-367-0440

FAX: 908-905-9279

Compuserve Code: GOMW

Call 24 hours a day, seven days a week.

NEW! Express

Customer

Service Number:

1-800-925-6227

Midnight Express Service available weekdays.



We carry more than 2000 Macintosh products, including all the latest releases and new versions. We pride ourselves on getting new products first. Just fill in the information requested below and mail the coupon. We'll start your free, one-year subscription to the MacWAREHOUSE catalog with the next issue.



FREE CATALOG SUBSCRIPTION MU1293
Free MacWAREHOUSE Catalog Subscription
1720 Oak Street, P.O. Box 3031, Lakewood, NJ 08701

Please enter my free, one-year subscription to the MacWAREHOUSE catalog

Name _____
Address _____ Apt. _____
City _____ State _____ Zip _____

(Expect to receive your first issue within 4-6 weeks.)

MacWAREHOUSE

1-800-255-6227

Fax orders: 1-908-905-9279

GUARANTEE

Many of our products come with a thirty day money back guarantee, if you are not completely satisfied. Ask for details when you place your order.

BUSINESS & PRESENTATION

A Lasting Impression	
● ResumeExpert: MS Word, Cover Letters, Manager, Sales & Marketing, Students, Computer Science & Engineering, Financing & Banking, and more	ea 49
Abacus Concepts	
● STA0032 StatView 4.0	449
● STA0030 SuperANOVA	369
Aldus	
● BUS0065 Persuasion 2.1	325 95
● DateBook Pro or TouchBASE Pro	ea 49
Attain Corporation	
● BUS0288 IN CONTROL 2.0	85
Avid	
● VID0051 Video Shop 2.0 Competitive Upgrade	149
Clarisc	
● BUS0338 ClarisWorks 2.0 w/ FREE Quicken 4.0	199 95
Gold Disk	
● BUS0329 Astound	249
Intuit	
● FIN0201 Quicken 4.0	44 95
Lotus Development Corporation	
● BUS0188 Lotus 1-2-3 for Macintosh 1.1	293
● LOT0004 Lotus 1-2-3 Competitive Upgrade	93
Microsoft	
● BUS0223 Microsoft Excel 4.0	295
● UPG0010 Microsoft Excel 4.0 Upgrade	129
● DAT0047 Microsoft FoxBASE+ Mac 2.01	329 95
● BUS0181 Microsoft Project 3.0	445
● BUS0186 Microsoft Schedule+ 5 Pack	135
● BUS0243 Microsoft Works 3.0	159 95
● BUS0285 The Microsoft Office 3.0	475
● BUS0269 PowerPoint 3.0	285
● WRD0059 Word 5.1	295
Pastel Development	
● BUS0266 Daymaker 2.0	79
Round Lake Publishing	
● Legal or Sales LetterWorks	ea 45
Teleware, Inc.	
● FIN0087 M.Y.O.B. 3.0	109
Wordstar	
● WRD0050 WriteNow Workshop	85
WordPerfect Corporation	
● WRD0068 WordPerfect 3.0 w/ FREE Grammarly	125

COMMUNICATIONS & NETWORKING

Adobe	
● COM0171 Adobe Acrobat Starter Kit	669
Apple Computer, Inc.	
● NET0250 AppleShare 3.1	969
● COM0131 AppleTalk Remote Access	149
● COM0126 Macintosh PC Exchange	59 95
Dayna Communications, Inc.	
● NET0357 EtherPrint-3	379
● NET0077 DaynaPORT E/I	149
● NET0278 DaynaPORT SCSI Link	349

Thunder 7 v.1.5.3



● Thunder 7 is the universal spellchecker that alerts you the instant you make a mistake, helping you fix it immediately—in any application. With features such as the

Shorthand Glossary which expands abbreviations automatically as you type and an on-line thesaurus, you keep your work looking professional. You'll find it indispensable!

Publisher:
Baseline
Publishing
SPL0029

\$56

● NET0359 DaynaSTAR Hub-24	859
Farallon™ Computing	
● NET0007 PhoneNET® Plus, SE & II	31
Global Village (full line available)	
● PowerPorts	Call
Hayes	
● MOD0130 ACCURA 144+Fax 144	239 95
● MOD0129 ACCURA 96+Fax 96	219 95
● MOD0128 ACCURA 2400 (data only)	75 95

Virtus VR
"The Future is here". Virtual reality—Headsets? Goggles? Not anymore! Imagine the world of virtual reality on your desktop computer. This exciting package comes with its own set of 3D worlds. You control the action—like a flight simulator or a movie that you direct. Changes are easy and take place in the blink of an eye. Virtus VR is powerful, easy to learn and simple to use.
Publisher: Virtus
GRA0544

\$65⁹⁵

Insignia (Full line available)

● UTI0433 AccessPC 3.0	79 95
● COM0144 Soft PC Universal 3.0	89 95
PowerUser®	
● MOD0115 24/96 Send/Receive Fax Modem	129 95
● MOD0116 14.4 Send/Receive Fax Modem	199 95
Prometheus	
● MOD0084 Home Office 24/96	135 95
● MOD0085 Ultimate Home Office 24/96	239 95
Shiva	
● NET0246 LANPower/L	599
Zoom Telephonics	
● MOD0110 FaxModem PKI	85 95
● MOD0109 VFX V.32bis MacPack	185 95
● MOD0117 FVX FaxModem	119

EDUCATIONAL & ENTERTAINMENT

Broderbund	
● CDR0042 Just Grandma and me CD-ROM	35
● CDR0268 Kid Fix 1.2	35
Centron Software, Inc.	
● ENT0269 CasinoMaster Deluxe Color Version	45
● ENT0440 Crossword Creator	39
Hordie Software	
● EDU0051 MacKids Turbo Math Facts 2.0	25
Personal Training Sys. (Full line available)	
● EXCEL 4.0, Word 5.1, Filemaker Pro 2.0	ea 49
Software ToolWorks	
● MUS0092 Miracle Piano	349

GRAPHICS & DESIGN

Abracadabra	
● Design Your Own Home: Architecture, Interiors or Landscape	ea 49 95
Adobe Systems, Inc. (Full line available)	
● GRA0500 Illustrator 5.0	369
● GRA0520 Adobe Premiere 3.0	429
● GRA0430 PhotoShop 2.5	549
Aldus	
● GRA0305 FreeHand 3.11	395 95
● GRA0279 Gallery Effects Vol. 1	129 95
● GRA0599 IntelliDraw 2.0	139 95
● GRA0503 SuperPaint 3.5	99
● DTP0088 PageMaker 5.0	579 95
● UPG0032 PageMaker 5.0 Upgrade	149
● DTP0080 Personal Press 2.0	99

Altsys	
● PRO0509 Fontographer 4.0	259
Apple Computer, Inc.	
● GRA0347 QuickTime Starter Kit	109
Clarisc	
● GRA0350 MacDraw Pro 1.5	275 95
Cachet	
● GRA0432 Electronics for Imaging (EFI)	299
Dream Maker	
● GRA0514 MacGallery II	27
Fractal Design	
● GRA0412 Painter 2.0	279
Graphsoft	
● CAD0024 Blueprint 4.0	199
● CAD0030 MiniCad 4.0	589
Gryphon Software	
● GRA0505 Morph 2.0	165
Kodak	
● GRA0443 Kodak Shoebox	279
Quark, Inc.	
● DTP0096 XPress 3.2	599
Ray Dream	
● GRA0383 addDepth	125
Softkey Software	
● FON0480 KeyFonts	49

INPUT & OUTPUT

Apple Computer, Inc.	
● ACC0321 LaserWriter Toner Cartridge	89 95
● ACC0322 LaserWriter 250 Sheet Letter Cassette	72 95
● ACC0323 LaserWriter II Letter Cassette	65 95
Caere	
● INP0289 OmniScan	399
Datadesk International	
● INP0174 Mac 101E Keyboard Platinum	129 95
● INP0183 Mac 101E w/Keys 2	159
Kensington	
● INP0231 Turbo Mouse (SE or II) 4.0	109
Microtek	
● INP0246 Microtek ScanMaker II	899
● INP0247 ScanMaker II XE	1199
Mouse Systems	
● INP0132 Little Mouse ADB	74

Retrospect

● Retrospect continues to dominate the market for network backup, and for good reason.

MacWEEK, 1992 Diamond Award
Retrospect® 2.0 provides both incremental backup to protect daily work and true archiving to remove inactive files from your hard disk to a storage device. Advanced scripting and scheduling provide automatic, unattended backup to all desktop volumes.

Publisher:
Dantz
UTI0227

\$147

SuperMac	
● MDR0053 SuperMatch 20+ Color Display	1799
UMAX	
● INP0273 UC840 Color Scanner w/ Photoshop	1445
● INP0287 UC630 Color Scanner w/ Photoshop LE	899
POWERBOOK PRODUCTS	
Applied Engineering	
● ACC0833 Automobile Power Adapter	69
● ACC0834 Battery Charger	69
Battery Technology Inc.	
● ACC0840 Battery for Powerbook	59 95

GameChatter



● GameChatter is a control panel device that allows you to cheat at dozens of Mac games. Be unbeatable! Cooper every adversary, every time! GameChatter works with all your favorites including

Prince of Persia, Hellcats over the Pacific and Spectre. Get GameChatter and you'll be unbeatable.

Publisher: Baseline Publishing
ENT0556

\$34

CMG Computer Products

● ACC0837 Powerlock Plus	49
Connectix	
● UTI0297 CPU Connectix for Powerbook Utilities	55 95
Kensington	
● INP0221 Notebook Keypad	79
Sophisticated Circuits	
● INP0232 Powerpad	75

UPGRADES & DRIVES

Applied Engineering	
● DRI0728 40 MHz LC Accelerator	399
● DRI0731 25 MHz SE Accelerator	189
● DRI0531 AEHO Plus Drive	299 95
DayStar Digital	
● Universal PowerCache 33 MHz	369
● Universal PowerCache 33 MHz w/882	459 95
● Universal PowerCache 40 MHz	565
● Universal PowerCache 40 MHz w/882	639 95
Mass Microsystems	
● DRI0253 DataPak 45MB Removable	499
● DRI0719 3.5 in. 105 MB Syquest Drive	875
● DRI0623 Data Pak 44/88C MB Removable	649 95
Peripheral Land, Inc.	
● DRI0375 Infinity 88 Removable single	599 95
PowerUser®	
● CHP0011 4 Meg SIMMs 80ns	Call
● CHP0013 1 Meg SIMMs 100ns	Call
● DRI0550 85 Meg Drive	329 95
● BND0176 44/88C MB Syquest Removable	499
● BND0094 44MB Syquest Removable	299
● BND0095 88MB Syquest Removable	489
SuperMac Technologies	
● DRI0437 Spectrum/8 24 PDQ	599

UTILITIES & PROGRAMMING

Abbott Systems, Inc.	
● UTI0113 CanOpenP 2	59 95
Aladdin Systems	
● UTI0302 StuffIt Deluxe 3.0	69
Apple Computer, Inc.	
● SYS0004 System 7.1 Personal Upgrade Kit	79 95
● SYS0010 AI Ease 2.0	45 95
Binary Software	
● UTI0348 Square One 1.5	45 95
Caere	
● UTI0293 OmniPage Direct	199 95
● UTI0202 OmniPage Professional	649
Kent Marsh, Ltd.	
● UTI0212 FolderBolt	75
MAXA Corporation	
● UTI0353 Alert!	115
MicroMal Computer Systems	
● UTI0285 MacCCK 2.0	89
Symantec Corporation	
● UTI0151 Norton Utilities for the Mac 2.0	95
● UTI0334 Symantec Antivirus for Mac 3.5 (SAM)	65 95

MacWAREHOUSE

1720 Oak Street, P.O. Box 3031, Lakewood, NJ 08701
©1993 Micro Warehouse Inc.

- All major credit cards accepted. No surcharge
- Your credit card will not be charged until your order is shipped
- If we ship a partial order, we pay the freight on the remaining portion
- All U.S. shipments are insured at no extra charge
- C.O.D. orders accepted (add \$5.00 including shipping)—\$1,000 maximum
- All products are covered by a 120-day limited warranty. Defective software replaced immediately. Hardware replaced or repaired at our discretion
- Sales tax: CT residents add 6%, NJ residents add 7%, Ohio residents add appropriate tax
- SHIPPING**
- All orders add \$3.00 per order. We ship Airborne Express overnight unless UPS Ground delivers overnight (Some rural areas require an extra day)
- Orders placed by 12:00 MIDNIGHT (EST) (weekdays) for "in-stock" items ship same day (barring system failure, etc.) for overnight delivery
- C.O.D. orders ship via UPS (Blue Label) if you are more than 2 days from us via UPS Ground). Charge is \$6.00 including shipping
- Alaska, Hawaii, outside continental U.S. APO/FPO call 908-367-0440 for information. Some products are not available outside the U.S.
- We regret that we cannot be responsible for typographical errors.
- For faster service for existing customers, our computers recognize incoming calls by the telephone number and instantly locate your records.

Kodak Shoebox

● Kodak Shoebox Photo CD Image Manager software provides the easiest way to manage thousands of images on your desktop. You can catalog, index and search high quality

images and multi-media objects as simply as point-and-click. Now you can easily index, catalog and search thousands of files by user-defined fields, along with key words, attributes and captions.

Publisher:
Eastman Kodak
GRA0443

\$279

UD-1212R Graphics Tablet

Based on Wacom's legendary reputation for quality, the new UD-1212R tablet incorporates features never before available on a graphics tablet, such as "auto pressure range control" for personalizing the pen to your exact feel, and the incredible multi-device feature for having a pen and cursor working simultaneously on the tablet! These are just a few of the new features on this top-of-the-line Wacom tablet, and you get all this at a new low price!

Manufacturer:
Wacom
INP0303



NEW!

\$629⁹⁵



THIRD WAVE

A DIVISION OF MACPRODUCTS USA

- Solution oriented system sales
- Personal account executive
- Exceptional product reliability
- Receive corporate pricing
- Join our preferred buyer program



THIRD WAVE 120MB OPTICAL ONLY \$875!
THIRD WAVE 256MB OPTICAL ONLY \$1299!



SONY 2GB DAT DRIVE WITH RETROSPECT
ONLY \$999!



**Radius
Color Pivot
LE**
\$799.00



**Daystar
50MHz
W/6882 FPU**
\$729.00



TI Microlaser
PS17 \$765.00
PS35 \$810.00
AppleTalk \$50.00



Umax 630 LE
\$879.00
Umax 1260
\$1875.00



**Wacom ArtZ
Bundled with
Painter**
\$499.00



**Apple
PowerBook
180c 4/160**
\$3299.00



**SyQuest
Cartridges**
44MB \$59.00
88MB \$95.00
105MB \$69.00



**Quark
Express 3.2**
\$575.00

SYSTEMS

Quadra 950 8/0	\$3,275.00
Quadra 840av 8/230	\$3,299.00
Quadra 840av 16/500	\$4,425.00
Centris 660av 8/230 CD	\$2525.00
Newton Comm System	\$869.00
Quadra 800 8/230	\$2999.00
Centris 610 4/160E	call
Centris 650 8/230E	call
uo 250 4/120	call
uo 270c 4/120	call

NETWORKING

sanite 10T Hub/12	\$459.00
sanite 10T Friendlynet	\$59.00
sanite 10T Hub/8	\$225.00
onic Powerbridge	\$99.00
onic Ethernet Card	\$169.00
onic StarBase 8 10BT Hub	\$259.00
ayna Etherprint Plus	\$399.00
ayna Pathfinder	\$575.00
arallon Etherwave	\$99.00
arallon Timbuktu 5.0	\$119.00

INPUT & OUTPUT

Apple Extended Keyboard	\$179.00
Apple Adjustable Keyboard	\$225.00
Mac Pro Keyboard	\$129.00
GR keyboard	\$79.00
urbo Mouse	\$115.00
Wacom ArtZ	\$295.00
Wacom UD1212R/M	\$575.00

MODEMS & FAXES

Global Village Teleport Gold	\$319.00
Global Village Teleport Silver	\$289.00
Global Village Teleport Bronze	\$109.00
Supra 14.4 Mac Package	\$229.00
Supra 14.4 LC	\$169.00
Supra 14.4 Powerbook	\$269.00
Zoom VFX V.32bis	\$199.00
Magic 14.4 Powerbook	\$199.00
Magic 14.4 W/Voice Mail	\$199.00

PRINTERS

Stylewriter II	\$359.00
Apple Laser Pro 600	\$1,949.00
Apple Laser Pro 630	\$2,449.00
TI Pro 600 PS23	\$1,399.00
TI Pro 600 PS65	\$1,575.00
TI Turbo	\$1,099.00
HP 4M	\$2,075.00
HP Deskwriter	\$375.00
HP 1200C	\$2,199.00
NEC Silentwriter 1097	\$1,475.00
GCC Writemove II	\$499.00
DEC Laser 1152	\$789.00

VIDEO SOLUTIONS

Supermatch 20TXL	\$2,499.00
Supermatch HiRes	\$2,748.00
Supermatch 20 Plus	\$1,699.00
Supermac 17 Trinitron	\$1,099.00
Thunder II	\$3,389.00
Spectrum 24 Series IV	\$795.00

Thundersorm Deluxe	\$859.00
Digital Film	\$2,899.00
Radius 20i Intellicolor	\$2,499.00
Full Page Display	\$449.00
Radius TPD 20GS Display	\$825.00
Precision 24x Pro	\$1,999.00
Precision 24xp Pro	\$475.00
PhotoBooster	\$789.00
Videovision Studio	\$3,499.00
Rasterops 20 Trinitron	\$2,499.00
Rasterops 2020c	\$1,599.00
Rasterops 21 Monitor	\$2,525.00
Moviepack	1,525.00
24XLI Upgraded	\$1,359.00
Paintboard LI	\$725.00
Apple 14 RGB	\$549.00
Apple Audiovision Monitor	\$749.00
E-Machines T-16II	\$1,175.00
E-Machines T-20	\$2,495.00
Futura IISX	\$425.00
Ultura LX	\$1,119.00
Sony 1430	\$625.00
Sony 1604	\$975.00
Sony 1730	\$1,049.00
Nec 3FGE	\$609.00

ACCELERATORS

DAYSTAR 04040MHz IICI	\$1,583.00
FastCache Turbo	\$165.00
DAYSTAR 40MHz	\$489.00
DAYSTAR 040i20MHz	\$669.00
RADIUS ROCKET 33	\$1,419.00
RADIUS ROCKETSHARE	\$399.00

Tokamac 25MHz IICI	\$1,049.00
Diimo 50MHz IICI	\$589.00
Railgun Pro 33MHz SE	\$609.00

SCANNERS

Umax 630le	\$879.00
Umax 840	\$1,249.00
Umax 1260	\$1,825.00
Microtek LE	\$849.00
Microtek IIIXE	\$1,099.00
HP IIC	\$1,349.00
Tamarak 1200	\$1,599.00

DRIVES

TW 105 Syquest w/cart	\$579.00
TW 88C Syquest w/cart	\$549.00
TW128mb Optical Drive	\$875.00
TW256mb Optical Drive	\$1,299.00
TW DAT 2GB	\$999.00
TW DAT 8GB	\$1,199.00
NEW! TW DAT 16GB	call
Quantum 240mb Int.	\$251.00
Quantum 1.2GB Int.	\$999.00
PLI 40R Syquest	\$329.00
PLI8844R Syquest	\$649.00
PLIDAT	\$1,399.00

CD-ROM

MAGIC CD-ROM	\$549.00
PLI CD-ROM	\$599.00
Apple CD-300	\$425.00
Pioneer 604X	\$1199.00
Emac CD-ROM	\$199.00

SOFTWARE

MS Word 5.1	\$299.00
MS Excel 4.0	\$299.00
Freehand 3.1	\$399.00
Minicad 4.0	\$525.00
Adobe Acrobat	\$139.00
Adobe Photoshop 2.51	\$525.00
Aldus Pagemaker 5.0	\$569.00
Quark Express 3.2	\$575.00
Adobe Type Manager	\$65.00
Canvas 3.5	\$279.00
Filemaker Pro	\$259.00
Fractal x2	\$75.00
Painter	\$259.00
Macromind Director 3.1	\$799.00
Quickeys 3.0	\$117.00
Suitcase 2.1	\$55.00
System 7.1	\$89.00
DiskDoubler 3.7	\$59.00

ACCESSORIES AND MEDIA

Jetinc Refill	\$15.99
TI Toner	\$42.00
Optical Carts for 128mb	\$39.00
Optical Carts for 256mb	\$65.00
Internal kits	\$19.00
External Case Kits	\$99.00
Targus Powerbook Case	\$45.00
PowerBook Battery	\$79.00
60m DAT Tapes	\$15.00
90m DAT Tapes	\$19.00
DAT Drive Cleaning Kit	\$19.00

THIRD WAVE 7301 Burnet Road Suite 102 Austin, TX 78757 (512)477-8845 FAX (512)478-8241
We accept Visa, MasterCard, and COD payments. Corporate, educational, and government purchase orders accepted.

TU30MO

CIRCLE 147 ON READER SERVICE CARD.

1(800)624-9307



DIRECT CONNECTIONS

TECH: 612-937-9604

800-572-4305
30 DAY MONEY-BACK



FAX: 612-937-6285 HOURS: M-F 8:00-6PM CST

HARD DRIVES

FUJITSU

5 YEAR WARRANTY

CAPACITY	SIZE	ACCESS	INTERNAL	EXTERNAL
240MB	2.5"	14MS	\$ 478	\$ 538
520MB	3.5"	9MS	\$ 595	\$ 655
1.261G	3.5"	8.5MS	\$ 850	\$ 910
2.461G	5.25"	11.5MS	\$ 1550	\$ 1610

Seagate

5 YEAR WARRANTY

CAPACITY	SIZE	ACCESS	INTERNAL	EXTERNAL
283MB*	3.5"	16MS	\$ 339	\$ 399
344MB	3.5"	12MS	\$ 451	\$ 511
600MB*	3.5"	10.5MS	\$ 889	\$ 949
1.261G	3.5"	9MS	\$ 919	\$ 979
1.661G*	5.25"	15MS	\$ 1289	\$ 1348
2.261G*	5.25"	12MS	\$ 1439	\$ 1539
2.461G	5.25"	11MS	\$ 1760	\$ 1860
2.461G	3.5"	9MS	\$ 1695	\$ 1755
2.561G	3.5"	8MS	\$ 2039	\$ 2099
3.461G	5.25"	10MS	\$ 2390	\$ 2490

HITACHI 5 YEAR WARRANTY

CAPACITY	SIZE	ACCESS	INTERNAL	EXTERNAL
1.26B	3.5"	11.8 MS	\$ 999	\$ 1049
1.66B	3.5"	11.8 MS	\$ 1265	\$ 1325
3.761G	5.25"	12.8 MS	\$ 2395	\$ 2495

Anubis Formatting Software included with all hard drive purchases

RAID SYSTEMS



- Support levels 0, 1, 3 and 5
- Front Panel LED Controls
- On-the-fly Removability
- Fast SCSI II Interface
- Tape backup options

OPTICAL DRIVES

INCLUDES ONE CARTRIDGE

1 YEAR WARRANTY

CAPACITY	MODEL	ACCESS	EXTERNAL
128MB	Ricoh	30MS	\$ 839
128MB	Fujitsu	30MS	\$ 855
650MB	Ricoh Hyperspace	28MS	\$ 1799
1.061G	Panasonic	90MS	\$ 2999

THE DC DIFFERENCE

Direct Connections provides Unlimited tech support. We stand behind our products. No surcharge for Visa/M.C.. Highest quality, best service, greatest value. Please call for RMA# to have returns accepted. Credit cards verified for security. Lease options available. 30 day money back except freight. [7950 Wallace Road Eden Prairie MN 55344] COMPARE US TO ANYONE! * 1 YR WARRANTY

TAPE BACKUP SYSTEMS

INCLUDES TAPE + RETROSPECT SOFTWARE

2 YEAR WARRANTY

250MB	Sankyo CP-150	DC6250	\$ 415	\$ 475
500MB	Sankyo CP-525	DC6250	\$ 565	\$ 625
750MB	Exabyte 2501	DC2750	\$ 626	\$ 686
1.3-261G	Archive 4320*	4MM	\$ 1109	\$ 1149
1.3-861G	Archive Turbo*	4MM	\$ 1299	\$ 1359
1.3-261G	Exabyte 4200*	4MM	\$ 999	\$ 1059
1.3-561G	Exabyte 8205	8MM	\$ 1506	\$ 1659
1.3-1061G	Exabyte 8505	8MM	\$ 2224	\$ 2379

CD ROMS

1 YEAR WARRANTY

Toshiba 3401	Unparalleled speed and reliability. Fully integrated audio, double speed drives, MPC compliant, and supports Multi-session photo CD.	\$ 475
T 3028	Multi-session photo CD, 265MS access time, SCSI II, Dual Speed, Audio Output, self cleaning/lens mechanism	\$ 419
Sony CDU-561	Multi-session photo CD, double speed, Fully integrated audio.	\$ 405
With one of our drives, you can pick and choose your title or bundle from our large selection. All our CD titles are only \$25.95. A purchase of two or more titles saves you an additional \$2 per title.		
Richo Playwright 1000	Recordable CD	\$ 3899

CIRCLE 41 ON READER SERVICE CARD.

MEMORY • MEMORY & MORE

MEMORY UPGRADES

YOUR MACHINE	SIZE	DESCRIPTION	PART #	PRICE
Plus, SE, SE/30	1MB	1x8-70ns	SIM18-70	\$53
Mac IIsi, IIfx, IIfx	2MB	2x8-70ns	SIM28-70	\$84
Classic, Color, II, LC, LCII	4MB	4x8-70ns	SIM48-70	\$157
Performa 200, 400	8MB	8x8-70ns	SIM88-70	\$297
	16MB	16x8-70ns	SIM168-70	\$669
Mac II, IIfx	1MB	1x8-70ns	SIM18-CX	\$57
	4MB	4x8-70ns	SIM48-CX	\$163
LC III	4MB	1x32-70ns	SIM4-102432-70	\$172
Centris 610, 650	8MB	2x32-70ns	SIM8-204832-70	\$337
Performa 450	16MB	4x32-70ns	SIM16-432-70	\$652
	32MB	8x32-70ns	SIM32-832-70	\$1765
IIfx, IIfx	1MB	1x8-70ns	SIM18-70	\$53
Quadra 700, 900, 950	4MB	4x8-70ns	SIM48-70	\$157
Performa 600	8MB	8x8-70ns	SIM88-70	\$297
	16MB	16x8-70ns	SIM168-70	\$669
Quadra 800	4MB	1x32-60ns	SIM4-102432-60	\$182
	8MB	2x32-60ns	SIM8-204832-60	\$347
	16MB	4x32-60ns	SIM16-432-60	\$662
	32MB	8x32-60ns	SIM32-832-60	\$1775
Mac IIfx	4MB	4x8-70ns fx	SIM48FX-70	\$141
	8MB	8x8-70ns fx	SIM88FX-70	\$293
	16MB	16x8-70ns fx	SIM168FX-70	\$629



Terms and Conditions: Memory products are third party manufacturer's products and are for your convenience. Freight charges are non-refundable. An RMA number is required for all returns. All non-defective returns, unopened, untested, or cancelled orders, will be subject to a 20% restocking fee. Due to U.S. tariffs, prices on some manufacturers' memory pricing may be higher than advertised. Prices and availability are subject to change without notice. Purchase prices at the time of order are final. First Source International cannot be responsible for errors in typographical or photographic. We will best any advertised price valid only on identical brands, offer not good for 30MB or DRAM. Trademarks and registered trademarks are of their respective companies.

POWERBOOK MEMORY

PowerBook 100, 140, 145 and 170	4MB M10331LA	\$187	6MB PN N/A	\$322
PowerBook 160, 165 and 180	4MB M46641LA	\$187	6MB PN N/A	\$331
	8MB PN N/A	\$332	10MB PN N/A	\$478
PowerBook 165c and 180c	4MB PN N/A	\$221	6MB PN N/A	\$426
	8MB PN N/A	\$434	10MB PN N/A	\$699
PowerBook Duo 210 and 230	4MB M41841LA	\$168	8MB M41851LA	\$318

FAX/MODEMS

Megahertz

Leading Your World

For All Powerbook Models
14.4kbps V.32/V.42 bis w/14.4kbps send/receive \$295

COMPUTER PERIPHERALS, INC.

Viva External Modems For Macintosh

14.400bps V.32/V.42 bis w/14.400bps send/receive \$269
9600bps modem with send/receive FAX \$99

CARRYING CASES

TARGUS

- Notebook, The perfect case \$39
- Universal Notebook, For all your accessories \$69
- Leather Notebook, For your notebook & printer \$99

Mail or fax orders to:
First Source International, Inc.
7 Journey • Aliso Viejo, CA 92656



WE SET THE STANDARD:

- INSTALLATION INSTRUCTIONS INCLUDED
- TOLL-FREE TECHNICAL SUPPORT
- CORPORATE PO'S, APO/FPO'S WELCOME
- GOVERNMENT AND EDUCATIONAL PRICING
- INTERNATIONAL ORDERS WELCOME
- SPECIAL VOLUME PRICING
- OVERNIGHT DELIVERY AVAILABLE
- NO SURCHARGE ON CREDIT CARDS

DON'T SETTLE FOR LESS!

TOLL FREE FROM USA & CANADA

800-434-9866

INTERNATIONAL ORDERS

714-448-7750

FAX ORDERS

714-448-7760

Business hours:
Monday - Friday, 8am-5pm, P.S.T.
Saturday, 9am-3pm, ORDERS ONLY



CALL THE UPGRADE EXPERTS 800-434-9866

Follow the Leader...



Optical Drives

DGR Technologies' line of Magneto Optical Drives continues to be the leader in Optical Technology as it has for the past two years, that is why MacUser made us the industry standard by which all others are compared. Our new line of optical drives provides storage solutions that are fast, reliable, and cost-effective.

128REMe	\$999.00	256REM	\$1499.00
128REMf	\$1149.00	650REM	\$2199.00



Bottom Line Pick MacUser August 1993

ColorBlaster LC

Experience blazing 16-bit color graphics on monitors up to 14" and 8 bit color up to 21". The ColorBlaster LC fits into the VRAM slot of the LC, LC II, and the Performa 400,405,430. The Blaster comes bundled with ColorIT! by Timeworks, a \$249 Value. Special Quicktime features allow you to double the size of the presentation without sacrificing speed.

\$249.00

ColorBlaster PB

Enhance your PowerBook with 16-bit color presentations and graphics, using monitors up to 16" or 8-bit color up to 21". The ColorBlaster PB also includes a 6MB RAM upgrade. Available for the PowerBook 140, 145, 145B, and 170.

\$999.00 ColorIT! included



JetInc.

JetInc is the most economical way to refill your ink jet printers. It provides over 50% savings, while also incorporating recycled materials that are environmentally conscious. (For IBM & Macintosh)

Two Pack Black	\$15.99
High Capacity Black	\$19.99
Two Pack Color	\$22.99
High Capacity Color	\$24.99
DeskWriter 550C (6)	\$74.99



Logic Keyboard

DGR "Logic" extended keyboard for Macintosh computers. Available in English, Spanish, French, Swiss and German. Includes a six foot cable and a one year warranty.

\$85.00



COLLEAGUE

COLLEAGUE Business Software is "all the software your business may ever need" in a single program. The new 3.4 version makes COLLEAGUE Business Software an even more useful tool for your business!

\$649.00

- Client Database w/Search & Sort
- Multi-User Options
- Invoicing
- Word Processing

New 3.4 Version!

- New Features Include:
- Ship to Address
- Inventory Search Function
- Enhanced Sales and Analysis Tools



1/2

MacUser February 1992

Tornado CD-ROM

DGR is proud to introduce its new multi-session CD-ROM. Awarded four mice by MacWorld Germany, it is one of the best CD-ROM drives in the industry. Bundled with AllCache accelerator software, the Tornado now out performs the Apple CD by over 5,000%.

\$599.00



800-235-9748

DU3DMO

DGR
Technologies

Look for Our Products at Your Local Dealer, or Call Us for One Near You

To order direct, call toll free Monday-Friday 8am to 7pm CST. DGR Technologies accepts MC, Visa, Discover, Pre-Paid & COD orders. DGR Technologies 1219 West Sixth, Suite 205 Austin, Texas 78703 Tel. 512/476-9855 Fax 512/476-6399 AppleLink: DGR.

©DGR Technologies Inc. Macintosh & Mac are registered trademarks of Apple Computer Inc. All brands and product names are trademarks of their respective holders.

CIRCLE 143 ON READER SERVICE CARD.





World's Fastest CD-ROM

**MacUser
LABS**

Bottom Line Pick



Reviewed by MacUser, Macworld,
MacWeek and PCWorld.

Magic CD-ROM

The new Magic CD-Pro 6 disk changer is fast becoming one of our hottest selling items.

The Magic CD-Pro 6's Quadraspin™ technology provides a 300% speed increase in transfer rate. And this PhotoCD compatible Pioneer drive is up to 5,000% faster than Apple's. Our custom AllCache software caches directory, database, QuickTime, Finder and application usage.

Magic CD-Pro\$549
 Magic CD-Pro w/6 Disk Bundle\$599
 Magic CD Pro 6 Quadraspin™\$1399
 Apple CD-ROM AllCache Upgrade\$59
 CDs
 CD-ROM Encyclopedia\$49
 W/purchase of CD Drive
 Cinderella the Original Tale CD\$24
 Arthur's Teacher Trouble CD\$57.95
 Aesop's Fables CD\$24
 Music Madness CD\$69
 Oxford English Dictionary\$839
 Great for Students!
 The Journeyman Project\$59
 NEW! Multi-Media Encyclopedia\$59
 Call for CD-ROM Catalogue ♦

Apple CD-ROM 300

Magic CD-Pro 6

300% Faster Transfer Rate

Magic CD-Pro/Pro 6

Up to 5,000% Faster HFS Access Speed

Dial our First Class BBS for software updates. Free BBS access software with every Magic purchase. 512 472 1794. VT100-8-1-None

Magic Hard Drives

Magic award-winning data storage

- Manufactured on premises.
- Inspected and tested to ensure the highest quality.
- Premium components, software, and manuals.
- Awarded for excellence.

Magic Hard Drives	Int.	Ext.
Magic 120MB**	\$179	\$259
Magic 240MB**	\$299	\$369
Magic 1.2GB*** Toshiba	\$999	\$1099
Magic PowerBook Drives		
Magic 160MB PowerBook*	\$299	\$399
Magic 213MB Portable*	\$489	\$589
Magic 340MB Portable*	\$649	\$749

Magic High Capacity Drives

1.0GB DEC*	\$1029	\$1099
1.7GB Barracuda††	\$1999	\$2099
2.4GB Fujitsu††	\$1999	\$2099

Half Height Internal Mounting Kit\$19
 (includes bracket and cables)

External Hard Drive Case\$79

Battery Operated External Case\$99

To Order Call 1 800 622 3475

Magic Optical

Magic 128MB Optical*	\$879
Magic 256MB Optical**	\$1299
Magic 650MB Optical*	\$1999
Magic 128 / 256MB Cart.	\$34/\$65
Precision 128 Carts / 10 Pack°	\$290
Magic 650MB Cartridge	\$99

Magic SyQuest

Magic 45R SyQuest**	\$299
Magic 88C SyQuest**	\$489
Magic 105C SyQuest*	\$579
Magic 150 Transportable Iomega*	\$579
Magic SyQuest 45 Cartridge	\$59
Magic SyQuest 88 Cartridge	\$95
Magic SyQuest 105 Cartridge	\$69
Magic 150 Transportable Cartridge	\$9.9

Magic DAT Tape

Magic 2.0GB w/Retrospect	\$999
Magic 5-8.0GB w/Retrospect	\$1199
Magic 16GB w/Retrospect	\$1599
* One Year Warranty	***Three Year Warranty
** Two Year Warranty**	†† Five Year Warranty

Call now for the latest in mass storage technology. And put your Macintosh to work. Better. Harder. Faster. ♦



Precision

- A premium optical cartridge
- Free data recovery
- Lifetime warranty

2-1/2"
Hard Drive Case

Magic
Rechargeable
Battery Hard
Drive Case



**MacUser
LABS**
Bottom Line Pick

MW
EDITORS
CHOICE

and a 64MB 24-bit 50Mhz LC.

QuickDraw faster than the Thunder II and FPU acceleration faster than the Daystar PowerCache.

RailGun Pro II with 24-bit Color

For the SE 30, LC, LC II, Color Classic, SI, and II. Lets you install up to 64mb of RAM.

RailGun II 50MHz.....\$599
Accelerator Only)

RailGun Pro II 50MHz.....\$899
Accelerator and 16" 24-bit color video)

RailGun Pro II 50MHz.....\$1099
Accelerator and 21" 24-bit color video)

RailGun

- For Plus, SE, and Classic
- Run your Mac 1200% faster
- Optional math co-processor
- FREE Connectix Virtual 3.02

RailGun Pro with Video

- **HOT!** built-in SCSI Accelerator
- Sharp 32-bit video output
- Dual-Screen capability
- Built-in PMMU

	RailGun	Pro	w/19" Monitor
Magic RailGun 16MHz	\$279	\$479	\$678
Magic RailGun 25MHz	\$299	\$499	\$698
Magic RailGun 33MHz	\$399	\$609	\$808
Magic RailGun 50MHz		\$695	\$894

*All prices quoted for SE version. Call for pricing on Classic or Plus version ♦

For Most
Macs



PowerBook Accelerators

140 Upgraded to 170 25mhz (68030/68882).....	\$329
145/145B Upgraded to 170 25mhz (68882).....	\$129
160 Upgraded to 180 33mhz (68030/68882).....	\$399
210 Upgraded to 230 33mhz (68030).....	\$399 ♦

**Lifetime
guarantee.**



Magic Memory

Memory upgrades available for all PowerBooks. Call for best pricing.

PowerBook RAM	Call
2MB SIMMs.....	Call
4MB SIMMs.....	Call
16MB SIMMs.....	Call
4MB 72-pin SIMMs	\$189
8MB 72-pin SIMMs	Call
LC/Quadra VRAM	Call

NEW!

ColorBlaster LC™.....\$219
Blazing high end color graphics for LC & Performa. Faster, larger QuickTime movies. ♦

Magic 14.4 Data/FAX/Voice

\$199

We manufacture a full line of Hayes compatible Modems, FaxModems, and PowerBook modems. All FaxModems come with full feature Fax STFM, Microphone®, America Online, and Compuserve communication software.

Magic PowerBook Modems

Magic AFX 24/96 Data/FaxModem.....	\$79
Mounts internally in any Macintosh PowerBook. 2400bps modem. 9600bps send & 4800bps receive fax.	
Magic 14400 bps Data/FaxModem	\$199
14400 Fax, V.32bis, V.42bis, MNP 1-5, Internal PB.	

Magic FaxModems

Magic VFX V.32bis Data/FaxModem	
Data/FaxModem	\$159
Data/FaxModem w/VoiceMail.....	\$199
14400bps modem. 14400bps send & receive fax, V.42bis/V.32bis hardware & MNP-1-5 protocols. ♦	

**Optional
Voice Mail
upgrade
\$69**



MacProducts USA
800 622 3475

Magic. Hard Working Tools For Your Macintosh Since 1985.

Corporate & Educational purchase orders accepted. MasterCard, Visa, Discover, American Express & COD accepted. Prices subject to change & availability. Texas residents add 8% sales tax. MacProducts cannot be responsible for errors in typography or photography. MacProducts offers

a 30-Day Money Back Guarantee on all Magic™ Products, excluding Original Shipping. Call for RMA before returning merchandise. Returns subject to a restocking fee. All brands & product names are trademarks of their respective holders.

CIRCLE 144 ON READER SERVICE CARD.

MU3DMO

608 West 22nd Street
Austin, Texas 78705 USA
Tel 512 476 5295
Customer Service
512 472 8881 ext 403
Fax 512 499 0888
Canada 800 624 9307



PS23
\$1375

23 scalable Adobe PostScript fonts.

PS65
\$1525

65 scalable Adobe PostScript fonts.

Texas Instruments MicroLaser Pro 600 Printers



DGR
Colorblaster
LC
\$219.95



QuarkXPress 3.2
\$549.95
PTS Training Tape
\$48.95



Adobe
Photoshop 2.51
\$499.95



Adobe
Illustrator 5.0
\$369.95
PTS Training Tape
\$48.95



SyQuest
44MB \$59
88MB \$89
105MB \$69



Symantec
Act! v1.1
\$165.95



Aldus
Fetch v 1.0
\$189.95



Deneba
Canvas v3.5
\$259.95



MacroMedia
MacroMind
Director v3.1
\$749.95



Fractal Design
Painter \$249.95
w/Wacom Tablet 200.95
X2 69.95



Connectix
CPU v2.0
\$45.95
V 1.0 Free with
PowerBook Purchase



Aldus
PageMaker 5.0
\$579.95
PTS Training Tape
\$48.95

SYSTEMS

Quadra 950 8 0	\$3199.00
Quadra 800 8 230	2899.55
Quadra 840AV 8 230	3249.55
Quadra 840AV 16 500	4399.00
NEW Quadra 610 4 160E	Call
NEW Quadra 650 8 230E	Call
Centris 660AV 8 230	2149.95
Centris 650 8 230 CD	2474.95
PowerBook 165 4 80	1799.95
LC III 4 80	1249.95
NEW Duo 250 4 120	Call
NEW Duo 270C 4 120	Call
Duo Modem	305.95
Extended Keyboard w/Purchase	79.95

DISPLAYS

Apple 14" / 16" RGB Display	\$515/1199
ColorPage T16-II	1169.95
L-TV LC/Pro	269.95/349.95
L-TV Pro Nubus	369.95
Lapis Full Page Display	399.95
NEC 3FGe 15"/4FGe 15"	599.95/755.95
NEC 5FGe 17"/6FG 21"	1159.95/2375.95
Sigma Designs Ergo View 17"	1025.00
Sigma Designs Power Portrait Silverview 21"	515.00
Sony CPD-1430S/1730	599.95/1049.95
Sony GDM-2036S/2038	2099.95/2325.95

PRINTERS

Apple StyleWriter II	\$329
Apple LaserWriter 300 / 310	785 / 1025
LaserWriter Pro 600/630	1849/2375
SilentWriter 95F/1097	899.95/1449.00
QMS 420/1000	1799.95/Call
QMS 860 HammerHead	3980.95
DEC Laser 1152	849.95
Turbo PS440B/PS660B	3219.95/3950.95
DataProducts LZR960	1066.95
GCC PLP II	509.00
GCC Writemove II	475.00
3M Rainbow Dyesublimation Printer	17,225.00
Call for accessories and consumables	
HP 4M/4ML	1989.95/1099.95
DeskWriter/550C	375.95/669.95
HP 1200	2149.95

SCANNERS

ScanMaker II/II XE	\$875.95/1140.95
Microtek Transparency	619.95
Microtek 35T	1349.95
Sharp 325 Kit	1099.95
Tamarak 600/800	735.95/919.95

Tamarak 1200	1564.95
Tamarak Transparency	560.95
ScanJet IIC	1299.95

INPUT DEVICES

Turbo Mouse ADB V4.0	\$99.95
MacPro Plus 105	115.95
DGR 105 keyboard	79.95
Other Language Keyboards	89.95
Mouse Pen Pro	60.95
MVP Mouse	82.95
Touch Screens	Call

NETWORKING

Asante EN/SC 10BaseT	\$238.95
Ethernet for Ili, Nubus, LC, & SE	99.95
SE30 10BaseT and AUI	99.95
Thin/10BaseT Transceiver	59.95
8 Port Hub 10BaseT, 1Bnc	219.95
MacCon + ILET64	148.95
Sonic 8 10BT Hub	199.00
Dayna Mini Hub	234.95
DaynaPORT E/LC-T	128.95
PhoneNet StarConnector	16.95
Ether10T Starcontroller	1054.95
FastPath 5 10BaseT	1759.00

DRIVES & TAPES

MacFloptical 21	\$419.95
Dual Transportable 90 Pro	1450.95
Transportable 90 Pro	670.95
Dual Multidisk 150	1726.95
Transportable 150	850.95
Tahiti 11m/4mb 1Gb optical	3000.95
PMO 1300 Mac	5700.95
Tahiti 130 Optical	920.95
PMO 650 Optical	2597.95
Quantum Go 160	280.95
Quantum 85/170	179.95/199.95
Quantum 240/1050	259.95/979.95
DEC 1.0 GB/1.6GB	1029.95/1349.95
Microplus 1GB SCSI 2	1029.95
Fujitsu 1.2GB/2.4GB	1049.95/1999.95
Toshiba 1.2GB	949.95
Toshiba 340 PowerBook	669.95
DGR 128 Optical	899.95
DGR Most 256 Optical	1499.95
Magic Syquest 88c	449.95
ThirdWave 2.0GB Dat Drive	999.95

MODEMS & FAX MODEMS

PowerPort/TelePort/Gold	\$349.95
Comstation IV PSI	349.95
PSI PB 144 IV	349.95
Supra 14.4 Mac Pack	219.00

Magic 14.4 DATA/FAX PB	200.95
Magic 14.4 DATA/FAX	160.95
Magic 14.4 DATA/FAX/Voice	200.95

ACCELERATORS

TransWarp 040	\$1,878.95
Railgun 25mhz SE	299.95
ImagePro 25	699.95
TokaMac 25 040	849.95
DiimoCache 50mhz IICI	599.95

SOFTWARE

4TH Dimension V 3.0	\$559.95
Access PC V3.0	74.14
Adobe Type Reunion	40.95
After Dark V2.0	26.95
Aldus Freehand V3.1	379.95
AutoDoubler /Disk Doubler Bdle	81.95
AutoDoubler V2.0	56.95
cc-Mail Mac 2.0	325.95
CD-ROM Tool Kit	47.95
Citadel with Shredder	53.95
Claris Works	190.95
Colleague	449.95
Color It	79.88
ColorSense Color Manager	317.29
Debabilizer	call
DesignCad 2D/3D V3.0	143.95
Disk Doubler v3.7	49.95
DiskExpress II V2.2	43.95
Diskfit Pro v2.2	70.95
EPS Exchange 2.0	85.95
FastBack Plus V3.0	97.95
FileMaker Pro	243.95
Fontmonger V1.5	89.95
Fontographer V4.0	249.95
Freedom of Press 3.01	225.95
GamePad Mac	29.95
Geometry	49.95
Gracelan Asset Manager	476.74
GreatWorks V2.0	83.06
Hard Disk Tool Kit	119.95
Hellcats Over the Pacific	37.69
In Control v2.0	80.95
In Touch V2.0	52.95
Just Grandma and Me	33.95
Kai's Power Tools 2	89.00
Kid Pix companion	22.95
Kid Pix V1.2	34.95
Kids Time	23.94
M.Y.O.B. V3.0	104.95
MacDraft V3.0	286.64
MacDraw Pro	249.95
Macflow V3.7	206.54

MacLink Plus/Pc V7.0	119.95
MacMainFrame DX	705.95
MacPro Plus 105	118.54
MacRecorder Pro	229.89
MacTools 2.0	86.95
MacWrite Pro	158.91
MacroMind Director v3.1	786.64
Managing Your Money V5.0	31.10
Mathcad V3.1	302.26
MicroPhone Pro	202.53
MiniCad +	489.00
More After Dark	21.95
MS Excel V4.0/Word 5.1	285.00
MS FoxBase + V2.01	320.05
MS Office/Works V3.0	449.00/157.70
MS PowerPoint V3.0	313.52
MS Project V3.0	449.36
MS Quick Basic	62.70
Norton Essentials PowerBook	82.45
Norton Utilities V2.0	89.95
Now Contact/Compress	59.95
Now Up To Date V2.0	59.95
Now Up To Date/Contact	107.95
Now Utilities V4.0	77.95
Ofoto V2.0	260.11
Personal Training Systems	44.95
Persuasion 2.12	320.95
PowerPrint	95.95
Quicken 4.0	41.89
Quickeys V3.0	102.95
QuickMail 2.6	119.95
Retrospect/Remote V2.0	141.95/252.95
SAM 3.5	63.28
Showplace/Renderman v1.3	370.20
SimCity Supreme	33.01
SimLife	27.52
SoftPc Universal	89.95
Stacker	61.73
Star Trek The Screen Saver	32.95
Stuffit Deluxe V3.0	63.95
Suitcase V2.1	49.95
Super ATM	86.95
Super Quickdex	53.95
Talking Reader Rabbit	31.93
Think C 6.0	191.13
Thunder 7	50.95
TimesTwo V1.0	93.99
Tmon Professional v3.01	144.95
Touchbase Pro V3.0	42.95
Typestry V1.1	159.27
View From Earth	47.35
Where In USA is Carmen SD	27.95
World Atlas V3.0 CD rom	47.92



Thunder II	\$3375.95
ThunderStorm Pro	2699.95
Spectrum/24 series IV	789.95
Thunder 24	2149.95
SuperMatch Hi-Res 20	2699.95
SuperMatch 20 TXL	2479.95
SuperMatch 20 Plus	1645.95
SuperMatch 17-T	1045.95
Spectrum /24 PDQ Plus	1511.95
Thunder II Light	2734.95
Digital Film	2869.95
SuperMatch 21"	2399.95

PaintBoard LI	\$749.95
Paintboard Turbo	1149.95
Paintboard Turbo XL	1475.95
24STV	755.95
24XLTV	2548.95
MoviePak 1	1149.00
MoviePak 2	1539.95
DuoMate 16sc	459.95
15" Grayscale Portrait	399.95
20" 20/20c Multiscan	1585.95
20" Multi-Scan Trinitron	2489.95
CorrectPrint 300I	7299.95

Color PivotLE With Purchase of Card	\$349.95
Rocket 040 33	1389.95
Precision Color 8XJ	475.95
Video Vision + Premier or Diva	1849.95
PhotoBooster	779.95
Precision Color 24XP Pro	469.95
Precision Color 24X Pro	1989.95
Precision Color 24X	1469.95
Intellicolor Display 20i	2499.95
Precision Color Pivot	899.95
NEW! 20GS Display	819.95
Video Vision Studio	3489.95

40MHZ Turbo 040	\$1583.95
25MHZ Turbo 040	899.95
33MHZ Turbo 040	1069.95
FastCache Turbo 33	165.95
040 i 25MHZ	739.95
33MHZ PowerCache w/FPU	415.95
40MHZ PowerCache	495.95
40MHZ PowerCache w/FPU	570.95
50MHZ PowerCache	619.95
50MHZ PowerCache w/FPU	719.95
Fastcache Quadra 128K	365.95
Disk Runner	585.95



Infinity 40 Turbo	\$339.95
Infinity 88C	499.95
Infinity 105 SyQuest	629.95
Quick SCSI	309.95
MiniArray 1.0GB	2249.95
1.3GB Tahiti III Optical	3349.95
3401 CD-Rom Drive	599.95
3401 internal CD-Rom	519.95
128mb Optical	1069.95
8GB DAT	1649.95

ArtZ & Painter Bundle	\$479.95
ArtZ	279.95
6 x 9 standard	435.95
NEW 12 x 12 UD Electrostatic	525.95
NEW 12 x 12 UD + Painter	725.95
12 x 12 Electrostatic	695.95
12 x 18 Electrostatic	999.95
18 x 25 Electrostatic	2,495.95
Painter V2.0	200.95
Painter X2	69.95

MicroWriter PS23	\$719.95
MicroWriter PS65	989.95
Microlaser PS17	764.95
Microlaser PS35	810.95
Microlaser Turbo	1068.95
1mb Mem Upgrade	40.95
4mb Turbo Upgrade	250.95
Microlaser Pro 600 PS23	1375.00
Microlaser Pro 600 PS65	1525.00

630LE Flatbed	\$865.95
840 Flatbed	1225.95
1260 Flatbed	1809.95
630 Flatbed	1075.95
630LE & Transparency	1539.95
1260 & Transparency	2525.95
Transparency Adapter	689.95
Auto Document Feeder	425.95
Scan Office	829.95



Apple
PowerBook
165 4 80
\$1875.00



Pioneer
6 Disk CD-ROM
\$1399.00



Radius
Color Pivot LE
\$349.95
with Purchase of a
video card.



E-Machines
T-16 II Display \$1169.95
Futura IISX Card 419.95
Ultura LX 1099.95



Supra V.32 bis
MAC Package
\$219.00
LC Package
\$189.00



DGR
128REMe
\$899.95



Sonic
Ethernet Cards
10BaseT \$99.00
Transceiver \$59.00
Dual Transceiver \$99.00



Digital Equipment
Corp.
DEC Laser 1152
\$849.00



QMS
Colorscript 1000
\$11499.95

INTERNATIONAL ORDERS

BOTTOM LINE PROVIDES THE EXTRA LEVEL OF SUPPORT INTERNATIONAL CLIENTS REQUIRE. 24-HOUR INTERNATIONAL FAX LINE. 220-VOLT VERSIONS OF MOST HARDWARE. DHL, UPS, FEDERAL EXPRESS DISCOUNT RATES AND CUSTOMS BROKERAGE. 2-3 DAYS DELIVERY TO MOST COUNTRIES.

- Internationale Händlerkonditionen!
- ΕΞΥΠΗΓΕΤΟΥΜΕ ΔΙΕΘΝΕΣ ΠΑΡΑΤΗΛΕΙΣ
- Nous acceptons des commandes internationales
- Se Hace Pedidos Internacional
- МНІ ГОЛОВНІ ПО-ПРЬСЬКО



1-512-472-4956

BOTTOM LINE

DISTRIBUTION

HOW TO ORDER: CALL 512-472-4956. PAYMENT: VISA, MASTERCARD, DISCOVER. TAX: TEXAS RESIDENTS ADD 8% SALES TAX. PRICES AND ITEMS SUBJECT TO CHANGE AND AVAILABILITY. INTERNATIONAL: 5% SURCHARGE ON INTERNATIONAL ORDERS. MAIL IN/FAX ORDERS ACCEPTED. TERMS: NO CHARGES UNTIL ORDER IS SHIPPED. PHONE CHARGES NOT REFUNDED. SHIPPING: MINIMUM \$5-UPS GROUND, BLUE, RED, FEDERAL EXPRESS. RETURNS: MUST BE IN ORIGINAL CONDITION AND PACKAGE AND REQUIRE AN RMA# SEAL. SEAL MUST NOT BE OPENED ON SOFTWARE. RETURNS MAY BE SUBJECT TO A RESTOCKING FEE. BOTTOM LINE DISTRIBUTION CANNOT BE RESPONSIBLE FOR ERRORS IN TYPOGRAPHY OR PHOTOGRAPHY. ALL BRANDS AND PRODUCT NAMES ARE TRADE MARKS OF THEIR RESPECTIVE HOLDERS.

THE MAC SOLUTIONS HOUSE



PERIPHERALS



WACOM

ARTZ (6" x 8") Graphics Tablet **\$295**
NEW! UD 1212R (12" x 12") **\$695**



PLI

88Mb/44Mb Syquest Drive **\$539**
105MB 3.5" Syquest, 14MS **\$649**
128MB Optical, 30MS **\$999**

UMAX

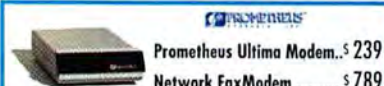
UC 1260 **\$1789**

1200 DPI Color Scanner w/
PhotoShop 2.5



UC 840 **\$1239**

800 DPI Color Scanner with PhotoShop 2.5



PROMETHEUS

Prometheus Ultima Modem... **\$239**
Network FaxModem **\$789**



SUPRA

14.4 V.32bis FaxModem **\$259**
14.4LC V.32 FaxModem **\$169**

PRINTERS



NEWTON Newton Systems Corporation

660B (600 DPI B-Size)..... **\$3895**
660P (600 DPI)..... **\$1695**
880P (800 DPI)..... **\$1999**



**HP HEWLETT
PACKARD**

4M
600DPI Laser Printer
\$1999

NEW! HP 4ML \$1075

PostScript Level 2, RISC, Resolution Enhance,
4MB, Energy Saving Features, Very Small Size



ScanJet IIc 24-Bit Color Scanner **\$1369**

Color DeskWriter 550C **\$625**

DeskWriter **\$345**

Texas Instruments Pro 600 DPI **\$1449**

GCC Select 600 (Tabloid) Laser Printer **\$3895**

*Price Per Month on Lease. Please Call for Details.

YOUR FRIENDLY SOURCE

If You have Questions about Any of the products on this page (or any of our 100s of other name brand items) Please Call Us. We pride ourselves on our Friendly, Specially Trained Mac Computer Specialists. They're not there to act as operators or order takers, they're there to help you intelligently configure a system based on your personal needs. They're there to answer all your questions and concerns, before you buy. And our comprehensive, TOLL-FREE Technical Support line is there to answer any of your questions or needs once your system is in place. **We truly are the Mac Solutions Experts.** Call us, and see for yourself what a difference a friendly, helpful Computer Specialist can make.

MAC SYSTEMS

AV SUPER SPECIALS!



All Systems Featured Below include the ABC Software Bundle:
Symantec's GreatWorks, Norton Utilities, Casa Blanca Works Drive* & MacDraw/Type

Quadra 840av SuperSystem \$279 p/m*

- Mac Quadra 840av w/ 24MB RAM, 1.2 Gigabyte Hard Drive, CD ROM Drive (40MHz, Voice Recognition, Speech Generation, Video Input and Output, Stereo 16-Bit Sound, DSP Chip)
- SuperMac 20" Trinitron Monitor
- UMAX UC840 24-Bit Scanner
- Apple Adjustable Keyboard
- NewGen 600 DPI Laser Printer
- Adobe PhotoShop 2.5
- ABC Software Bundle & Cables

Centris 660av GraphicStation \$4879/\$159 p/m*



- Mac Centris 660av 8MB RAM, 230MB HD, CD ROM (Voice Recognition & Generation, Video In & Out, 16-Bit Sound, DSP)
- Apple AudioVision 14" Monitor
- Infinity 88/RW44 Syquest Drive
- UMAX 600DPI Color Scanner
- Extended 101 Keyboard
- ABC Software Bundle & cables

Centris 650 PowerSystem \$3879/\$125 p/m*



- Mac Centris 650 8/230 w/CD ROM Drive
- Sigma ErgoView 17 Monitor & 16-Bit VRAM
- Extended 101 Keyboard
- ABC Software Bundle & Cables

LC III Home Office System \$1869



- LC III 4/80 • VividView 14" Color Monitor
- Sportster FaxModem • Quicken 4.0
- Keyboard, Mouse
- ABC Software Bundle & Cables

*Price Per Month on Lease. Please Call for Details.

POWERBOOK

The ABC PowerBook 180c Executive Package and the PowerBook 165 Traveller Package Below Feature the ABC Deluxe PowerBundle:
CPU PowerBook Utilities, Casa Blanca Works Drive*, Norton Utilities, MacDraw, MacDraw II, RTI Additional PowerBook Battery and PowerMac Surge Suppressor.

**PowerBook 180c
EXECUTIVE PACKAGE
\$149/\$4589 p/m***

- PowerBook 180c 4/160
- WriteMove Portable Printer
- Global Village PowerPort Gold 14.4 BPS Data/Fax Modem
- Targus Leather Case
- ABC Deluxe PowerBundle



The TRAVELLER PACKAGE \$2589/\$99 p/m*

- NEW! POWERBOOK 165 (33MHz) 4/160
- Dove PowerBook 2400BPS Data/9600 BPS FaxModem
- Targus PowerBook Case
- ABC Deluxe PowerBundle

PowerBook 145B 4/160 \$1649

NEWTON



Communications System
MessagePad & FaxModem..... **\$890**

**Communications System
Pro**
MessagePad, FaxModem, Mac to
Newton Transfer Kit..... **\$990**

Message Pad
MessagePad & Tutorials..... **\$765**

Software

QUARK XPRESS \$599
RayDream Designer \$199
Adobe Illustrator \$369
Adobe PhotoShop \$499
Aldus FreeHand \$369
ClarisWorks w/Quicken & America Online Kit \$199

**MultiPlatform Customers - We Also Sell
WINDOWS Software**

Sigma Designs



**Sigma ErgoView 14" Trinitron
Color Monitor \$395**
**Sigma ErgoView 17" Multi-Res
Trinitron Color Monitor \$1020**

NEC SFG 17" MultiRes Color Monitor \$1349
SONY 1730 17" Trinitron Color Monitor \$1099

SPECIALIZED SYSTEM BUNDLES

Complete Systems for the Following:

- DESKTOP PUBLISHING
- DESKTOP VIDEO
- DESKTOP ANIMATION
- GRAPHIC ARTIST
- SCREENWRITING
- SONGWRITING

Call for FREE ABC SYSTEM BUNDLE FAX SHEETS!

*Price Per Month on Lease or Finance Plan. Please Call for Details.

1 (800) 723-8262
fax: 1 (310) 325-4073

Return Policy: Call Customer Service at (310) 325-1422 to obtain a return authorization. Returned products must be in original condition and packaging and must be sent back within 30 days of purchase date.
Incomplete Products, Returns, Unauthorized Returns, and Refused Shipments are subject to a 15% Restocking Fee. No Returns on Opened Printers or Software packages. No Returns on Specialty-Ordered Items. No Refunds on Freight.

CIRCLE 150 ON READER SERVICE CARD.

(800) 723-8262 • (310) 325-1422 / fax: (310) 325-4073 • 23510 Telo Ave. #5, Torrance, CA 90505 • HOURS: Monday - Friday from 6:00am (Pacific Time) / Saturday 9:00am to 3:00pm / Sunday 9:00am to 2:00pm

**ADVANCE
BUSINESS
CENTER**

1 (800) 723-8262
fax: 1 (310) 325-4073

Conditions: Prices and information are subject to change without notice. All items subject to availability. We reserve the right to refuse to sell to anyone.
Credit Cards: We accept Visa, MasterCard, American Express, Discover, and Discover. Nominal Fees apply on some cards.
Not responsible for typographical errors. All information presented believed accurate at time of printing.



E-Machines T16 II
 • 640 x 480 up to 1024 x 768
 • Comp. with on-board graphics on the Quadra and Centrino
\$1259
 MacUser Magazine
 January 1993

E-MACHINES
E-MACHINES MONITORS
 ColorPageT16II\$1259
 E-Machines E20 Dual Mode Color Display.....\$1635
 E-Machines T20 Multi-Mode Color Display.....\$2495
E-MACHINES GRAPHIC CARDS
 24-Bit Futura SX / MX\$355 / 799
 24-Bit Futura II SX / LX\$429 / 775
 24-Bit Ultra LX\$1619



Thunder 24
\$2159
MONITORS
 SuperMac High Res 20.....\$2749
 SuperMatch 21".....\$2379
 SuperMatch 20T Multimode XL.....\$2539
 SuperMatch Plus 20" Color.....\$1649
 SuperMatch 17T.....\$1049
MULTIMEDIA
 Video Spigot NuBus / Pro NuBus.....\$365 / 999
 Pigot & Sound NuBus / Pro NuBus.....\$479 / 1125
24-BIT GRAPHIC CARDS
 Thunder/24.....\$2159
 ThunderLight.....\$1669
 Spectrum/24 PDQ Plus / Series IV.....\$1459 / 789
8-BIT GRAPHIC CARDS
 Thunder/8.....\$1129
 Spectrum 8*24 PDQ / PDQsi.....Call
ACCELERATORS
 ThunderStorm / Deluxe / Pro.....\$429 / 835 / 2675

BUY A NEC 6FG WITH A MACFG 24X & GET A MULTISPIN 74-1 FREE

MONITORS
 5" MultiSync 3FGe.....\$599
 5" MultiSync 4FGe.....\$719
 7" MultiSync 5FGe.....\$1099
 7" MultiSync 5FG.....\$1299
 1" MultiSync 6FG.....\$2349
 MacFG 24X / 24Xp.....\$1199 / 479

NEC 6FG
\$1199
 *Purchase a NEC 6FG with a MacFG 24X and get a NEC MultiSpin 74-1 from NEC, via mail-in coupon, offer ends 12/31/93

PRINTERS
 Silentwriter 1097.....\$1439
 Silentwriter 95f.....\$899
 Silentwriter 97.....\$1119
 Silentwriter 95fx.....\$1139
 Silentwriter 97fx.....\$1349

NEC
\$899
 Silentwriter 95f

GLOBAL VILLAGE POWERPORT (for PowerBooks)
 Bronze / Silver / Gold.....\$165 / 299 / 359
GLOBAL VILLAGE TELEPORT (External Desktop)
 Bronze / Silver / Gold.....\$105 / 299 / 359
IS MODEMS
 PowerModem I / II / III / IV.....\$105 / 225 / 319 / 359
 Constellation I / Constellation V.....\$169 / 425
UPRA MODEMS
 ProFaxModem 14.4 LC v.32bis, V.42bis w/FAXit & Micro.....\$165
 ProFaxModem 14.4 v.32bis, V.42bis Standalone.....\$235
 ProFaxModem 14.4 v.32bis, V.42bis w/FAXit & Micro.....\$289
 ProFaxModem PB 14.4 v.32bis, V.42 Internal for PB.....\$299
 ProFaxModem PB+ 14.4 v.32bis, V.42bis, VOICE for PB.....\$395
 Pro 2400 Baud External Modem.....\$69

NETWORKING
ASANTÉ
5
 10BT Hub/12.....\$479
 10BT Hub/8.....\$239
 10BT Hub/SC.....\$297
 10BT Hub/SC10T.....\$239
 10T FriendlyNet Media Adapter.....\$65
 10T FriendlyNet Media Adapter.....\$65
 C+IE64.....\$145
 C+IE64.....\$145
 C3NB.....\$189
 P1001.....\$239

MODEMS
mac & fax
\$229

Star Net
 StarNet 3 in 1 Card-NuBus, PDS, SE (Thk, Thin, 10BT).....\$149
 StarNet Thk/Thin for NuBus, PDS, SE.....\$99
 StarNet Thk/10BT for NuBus, PDS, SE.....\$99
 StarNet MicroSCSI Thin/10BT SCSI Ethernet.....\$249
 StarNet Apple AUI Ethernet Adapter (Quadra, Centris, Laserwriters, WorkGroup Servers)
 Single Port 10BT or Thin.....\$69
 Dual Port 10BT and Thin.....\$99
 StarNet MAUI Products.....\$119
 (Allows connection of two of the following products to one ethernet port, comp. with Quadra, Centris, Laserwriters, WorkGroup Servers)

CLUBMAC NETWORKING
 ClubMac EZ-Mac AAUI Transceiver.....\$59
 ClubMac EMac-11C (NuBus) 3 in 1 Card.....\$129
 ClubMac SE30C (SE/30 and Mac Ili) 3 in 1 Card.....\$129
 ClubMac LC8T (LC, LCI, LCII, Color Classic, Perf. 400).....\$149
 Ether-H12 14 Port 10BT Hub w/AUI & BNC & 12 RJ45.....\$399
 19" rack mount, or desktop. Universal Power Supply
 Ether-H9 9 port 10BT Hub w/9 RJ45.....\$199
 Wall Mount or Desktop. Built in re-timing

\$399
\$519
DUOMATES
 DuoMate 8.....\$399
 DuoMate 16sc.....\$519

RASTEROPS
DUOMATES
 DuoMate 8.....\$399
 DuoMate 16sc.....\$519
GRAPHIC CARDS
 24Mx / 24MxQ / 24XL.....\$599 / 1169 / 1869
 PaintBoard Turbo XL.....\$1469
 PaintBoard Turbo / Li.....\$1159 / 779
 8XL / 8XL.....\$899 / 459
 ColorBoard 264/SE30.....\$459

MONITORS
 21" Color (2168).....\$2295
 20"/20T Multiscan (207580).....\$2495
 20/20 Multiscan Color (2020C).....\$1529
 21" Mono/GrayScale (2110).....\$995
 15" ClearVue/15 Portrait (1510).....\$399

MULTIMEDIA
 MoviePak / with Adobe Premiere.....\$749 / 1129
 MoviePak2.....\$1549
 MediaTime.....\$1485
 24XLTV / 24MXTV / 24STV.....\$2599 / 1639 / 745

radius
WORRY-FREE SERVICE WARRANTY
MONITORS
 IntelliColor Display/20.....\$2589
 PrecisionColor Display/20v.....\$1869
 PrecisionColor Pivot.....\$919
 Mono. Pivot Display/E.....\$565
 Full Pg Display (FPD).....\$445
 Two Pg Display 20GS / 21GS.....Call

MONITORS
 IntelliColor Display/20.....\$2589
 PrecisionColor Display/20v.....\$1869
 PrecisionColor Pivot.....\$919
 Mono. Pivot Display/E.....\$565
 Full Pg Display (FPD).....\$445
 Two Pg Display 20GS / 21GS.....Call

GRAPHIC CARDS
 PrecisionColor Pro 24X.....\$2069
 PrecisionColor Pro 24XP.....\$485
 PrecisionColor 24X.....\$1495
 PrecisionColor 24XK.....\$809
 PrecisionColor 8XJ.....\$485
 Color Pivot/Pivot.....\$489 / 249
 FPD / Two Pg.....\$189 / 375

MULTIMEDIA
 VideoVision Studio.....\$3639
 VideoVision Studio Upgrade.....\$1599
 VideoVision (Presentation).....\$1929
 VideoVision (Basic).....\$1599
 Rocket 25i / 33.....\$979 / 1449
 RocketShare.....\$399
 PhotoBooster.....\$799

MICROTEK
 Better Images Through Innovation.
 ScanMaker II.....\$879
 ScanMaker IIXE.....\$1159
 Microtek 35i.....\$1379
 * Includes Photoshop 2.5 ** Includes Photoshop 2.5 LE

Mustek
 PARAGON 1200
 • True 1200 dpi • TWAIN compliant
 • 24-bit colors, 16.8 million colors
 • 8-bit gray-scale, true 256 gray-scale
 • Built in SCSI for PC and Mac
 • Scanning speed is 3.6 msec per line
 • 8.5" x 14" Scanning Area
 • Bundled with Full Adobe Photoshop 2.5
 • Optional Transparency Unit
\$1299

EPSON
 ES-800C Pro-Mac.....\$1249
 Includes: Photoshop 2.5, ScanTest & KAU's PowerTools
 ES-800C.....\$1065
 ActionScan 600.....\$799
 ES-800C Scanner, PhotoShop 2.5 LE & ScanTest

DAYSTAR DIGITAL
 33 MHz PowerCache.....\$335 / \$419
 40 MHz PowerCache.....\$499 / \$585
 50 MHz PowerCache.....\$625 / \$735
 PowerCache Adapter.....\$99
 Required for non-Mac IIx, Ili, IliX, Performa 600
 PowerCache Adapter (Classic/SE).....\$125
 PowerCache Adapter.....\$425
 Video for Mac Classic or SE

ClubMac Keyboard
 Available in English, Spanish, French, and German
\$65

GCC TECHNOLOGIES
\$399
 WriteMove II.....\$399
 PLP II (QuickDraw, Apple).....\$499
 Elite 4 (8ppm, 2MB).....\$729
 Elite 8 (8ppm, 2MB).....\$889
 Eclipse 4 (8ppm, RISC).....\$889
 Eclipse 8 (8ppm, RISC Ethernet).....\$1279

WARRANTY: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. **MONEY BACK GUARANTEE:** All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturer's return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. **RETURNS:** Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

CALL FOR FREE CATALOG
ClubMac
 1-800-258-2622
 Info (714) 768-8130 • Tech Support (714) 768-1490
 Fax (714) 768-9354 • 7 Hammond, Irvine, CA 92718

ClubMac
 1-800-258-2622
 Info (714) 768-8130 • Tech Support (714) 768-1490
 Fax (714) 768-9354 • 7 Hammond, Irvine, CA 92718

1-800-258-2622
 1-800-CLUBMAC
 1-800-258-2622

Quantum

NEW 1.8 GIG

A ClubMac Quantum Drive is the best "plug-and-play" storage solution for your Macintosh computer. All Quantum drives are backed by ClubMac's 30-Day Money Back Guarantee and TWO Year Warranty (GO•Drives include ONE Year Warranty).

30 DAY
MONEY BACK
GUARANTEE

GO•DRIVE SERIES

2.5" POWERBOOK DRIVES

Capacity	Access	Internal	External
80mb	17ms	\$209	\$309
120mb	17ms	\$265	\$365
160mb	17ms	\$265	\$365

LPS SERIES

3.5" LOW PROFILE

Capacity	Access	Internal	External
240mb	10ms	\$249	\$309
525mb	10ms	\$615	\$675

ELS SERIES

3.5" LOW PROFILE, LOW POWER

Capacity	Access	Internal	External
42mb	19ms	\$99	\$159
85mb	17ms	\$165	\$225
127mb	17ms	\$185	\$245
170mb	17ms	\$189	\$249

PRODRIVE SERIES

3.5" HALF HEIGHT

Capacity	Access	Internal	External
700mb	10ms	\$749	\$809
1.0GIG	10ms	\$899	\$959
1.2GIG	10ms	\$999	\$1059
1.8GIG	10ms	\$1249	\$1309

LPS, ELS and PRO drives carry a TWO Year Warranty. GO•DRIVES carry a ONE Year Warranty.

FIVE YEAR
WARRANTY

FUJITSU

30 DAY
MONEY BACK
GUARANTEE

Unformatted Capacity	Model	Description	Access Time	Actual MAC Capacity	Internal	External
230mb*	M2637	2.5" Low Profile	15ms	220mb	\$489	\$549
520mb	M2624	3.5" Half Height	9ms	496mb	\$615	\$675
1.2GIG	M2694	3.5" Half Height	8.5ms	995mb	\$959	\$1015
2.4GIG	M2654	5.25" Full Height	11.5ms	2000mb	\$1699	\$1799

* One Year Warranty

Seagate

30 DAY
MONEY BACK
GUARANTEE

Unformatted Capacity	Model	Description	Access Time	Actual MAC Capacity	Internal	External
3.5" HALF HEIGHT						
1.2GIG	ST11200N		10.5ms	1000mb	\$899	\$959
2.4GIG	ST12400N		9ms	2000mb	\$1609	\$1669
1.9GIG	ST11950N	Barracuda 1	8ms	1350mb	\$1549	\$1609
2.4GIG	ST12550N	Barracuda 2	8ms	2050mb	\$1864	\$1924
5.25" FULL HEIGHT						
1.6GIG	ST41651N	Wren-8	15ms	1350mb	\$1149	\$1249
2.1GIG	ST42100N	Wren-9	12.9ms	1900mb	\$1409	\$1509
2.4GIG	ST42400N	Elite-2	11ms	2050mb	\$1685	\$1785
3.4GIG	ST43400N	Elite-3	11ms	2750mb	\$2115	\$2215

Seagate drives carry a ONE Year Warranty.

CLUBMAC TAPE BACKUP SYSTEMS

30 DAY
MONEY BACK
GUARANTEE\$449
Teac 155mb Ext\$979
Archive 2.0 Ext\$1199
HP 2.0GIG Ext

NOW BUNDLED WITH
RETROSPECT V.2.0
TAPE BACKUP SOFTWARE

Capacity	Model	Media	Internal	External
TAPE BACKUP SYSTEMS				
155mb	Teac MT2ST/N50	CT600N	\$429	\$449
600mb	Teac MT2ST/F50	CT600F	\$629	\$649
DAT TAPE BACKUP SYSTEMS				
2.0GIG	Archive Python	4mm	\$959	\$979
3-5GIG	Archive Turbo DAT*	4mm	\$1229	\$1249
2.0GIG	Hewlett Packard 35470A	4mm	\$1179	\$1199
3-5GIG	Hewlett Packard 35480A*	4mm	\$1259	\$1279

All ClubMac Tape Backup Systems include ONE cartridge and ONE Year Warranty. * Data Compression

MacUser December 1993

CLUBMAC OPTICAL DRIVES

30 DAY
MONEY BACK
GUARANTEETEAC 3.5" 128MB EXTERNAL
\$799FUJITSU 128MB DYNAMO
\$929SHARP 5.25" 650MB EXTERNAL
\$1799

Part Number	Model	Capacity	Description	Seek	Internal	External
CMO-DynaMo	Fujitsu	128mb	3.5" LP	35ms		\$929
CMO-M2511A	Fujitsu	128mb	3.5" LP	35ms	\$899	\$929
CMO-3D3000	Teac	128mb	3.5" HH	45ms	\$769	\$799
CMO-OMD5010	Epson	128mb	3.5" HH	45ms	\$849	\$879
CMO-JY750	Sharp	594/652mb	5.25" HH	40ms	\$1769	\$1799
CMO-5031E	Ricoh	594/652mb	5.25" FH	28ms		\$2199
CMO-C1716T	HP	1.3GIG	5.25" FH	24ms		\$2729
128mb / 600mb / 1.3GIG Cartridge						\$35 / 89 / 109

All ClubMac Opticals include ONE cartridge and ONE Year Warranty.

1-800-258-2622

1-800-CLUBMAC

1-800-258-2622

MacUser December 1993

NEW LOWER SYQUEST PRICES


\$299

 44 MB External
20ms Access Time

\$459

 88c External
20ms Access Time

\$549

 105MB External
14.5ms Access Time

44MB REMOVABLES

 ClubMac 44mb External **\$299**

 ClubMac 44mb Internal **\$259**

88C REMOVABLES

 ClubMac 88c External **\$459**

 ClubMac 88c Internal **\$419**

105MB REMOVABLES

 ClubMac 105mb External **\$549**

 ClubMac 105mb Internal **\$509**

ClubMac 105mb Internal for Quadra 900/950 only



CARTRIDGES

 44mb **\$59**

 88mb **\$89**

 105mb **\$59**

SyQuest Drives include a TWO Year Warranty, one cartridge & necessary cables, SCSI Director™ Formatting Utility. SyQuest Cartridges carry a ONE Year Warranty.



FEATURING


SyQuest®
REMOVABLE
TECHNOLOGY

NEC CD-ROMs Solutions

 The NEC CDR-74 is one of the fastest drives in our test, and offers the best video performance... overall the top pick.
-- Macworld, October 1992
Editor's Choice Award

\$399
MultiSpin 74-1

 NEC MultiSpin 74-1 280 ms Access Time **\$399** ~~\$499~~

 NEC MultiSpin 38 480 ms Access Time **\$269** ~~\$369~~

NEC CD-ROMS carry a TWO Year Warranty.

CLUBMAC CD BUNDLE OVER \$800 VALUE


FUJITSU

128 MB OPTICAL DRIVE

A high performance 3.5 inch magneto-optical (MO) disk drive delivers nearly unlimited storage capacity to Apple Macintoshes. It's ideal for graphic artists, multimedia producers, document image managers and others who need a reliable way to store, transport and archive large data files.

- Average seek time of 30ms
- High 3600 rpm rotation rate
- Data transfer rate: up to 0.768 MB/sec
- 256 KB read-ahead buffer
- Includes ONE optical cartridge and ONE Year Warranty



DYNALINK MO 128


\$929

SHARP 5.25" 650 MB OPTICAL DRIVE

- Low-profile 5-1/4" half-height drive • 40 mm seek time
- 652 MB maximum memory capacity
- Built-in SCSI interface (SCSI 1 or SCSI 2)
- High data reliability
- Includes ONE optical cartridge and ONE Year Warranty
- Internal solutions available


\$1799
WARRANTY: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. **MONEY BACK GUARANTEE:** All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturer's return policies to its customers. Non-ClubMac products carry 30day money back guarantee when specified. **RETURNS:** Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. **ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.**


No Surcharge!

CIRCLE 23 ON READER SERVICE CARD.

CALL FOR FREE CATALOG

ClubMac
1-800-258-2622

 Info (714)768-8130 • Tech Support (714)768-1490
Fax (714)768-9354 • 7 Hammond, Irvine, CA 92718



800-442-4836

▶▶▶▶▶ TOP PRODUCTS, PRICES AND SERVICE

**DIRECT SALES & SUPPORT
INTERNATIONAL**
406-256-5806
FAX NUMBER
406-256-5816

SyQuest

Unformatted Capacity	Access Time	Price
Includes one free cartridge (2 year Warranty)		
44 mb External	19 ms	\$308
88C mb External	19 ms	\$498
105 mb External	14.5 ms	\$598

Scanners

UMAX
All Scanners
include free
software



Model	Price
UC630 - Color w/free Photoshop v2.5	\$1078
UC1260s - Color w/free Photoshop v2.5	\$1848
UC840 - Color w/free Photoshop v2.5	\$1248
Transparency Unit	\$698
Auto Document feeder	\$398
UG630 - Greyscale w/free Typewriter OCR, OFOTO & Publish It	\$848

NIKON New Super compact 35mm scanners!	Price
Coolscan - Color Fast, Compact 35mm External	\$2298

Software

Adobe Illustrator 5.0	\$369
Adobe Photoshop 2.5 (free with UMAX Scanners)	\$549
Adobe Premiere	\$429
Frame Maker	\$519
Quark Xpress 3.2	\$598

Accelerators

DAYSTAR DIGITAL

Model	Without FPU	with FPU
33 MHZ Powercache	\$338	\$418
40 MHZ Powercache	\$508	\$588
50 MHZ Powercache	\$628	\$738
Powercache Adapter		\$99
Fast Cache Quadra 700, 900		\$249
Fast Cache Quadra (all)		\$375
33 MHZ Turbo 040		\$1098
Fast Cache Turbo 33-128k		\$179
40 MHZ Turbo 040		\$1598

Media

Model	QTY 1	SPK 10PK	Model	QTY 1	SPK 10PK
SyQ44 cart	\$62	\$60	\$59	128mb OPT	\$37 \$35 \$33
SyQ 88 cart	\$95	\$94	\$93	256mb OPT	\$79 \$76 \$73
SyQ 105 cart	\$75	\$74	\$73	90mm DAT	\$19 \$17 \$14

CD-ROM Drives

Toshiba 3401 Ext Drive	\$498
200ms, Multisession, DualSpeed, SCSI-II	
Airbourne's External Drive	\$448
265ms, Multisession, DualSpeed, SCSI-II	

Note: Bundles are only for sale with purchase of a CD-ROM Drive

Reference Bundle **\$59.00**

- The New Grolier Multimedia Encyclopedia
- World Atlas • CIA World Fact Book

Education Bundle **\$59.00**

- MACnificent 7 Education & Games for System 7
- Mayo Clinic • U.S. History

Children Bundle **\$79.00**

- Interactive Storytime • US Atlas
- Velveteen Rabbit & Other Children's Classics

Children & Games Bundle **\$59.00**

- Animals - San Diego Zoo • Lucas Game Pack
- Guinness World Records • Sherlock Holmes

Clip Media & Fonts Bundle **\$69.00**

- Font Fun House • Font Pro Vol. 1
- Publish It! 2.0 with Clip Art Fonts • Color it!

Modems

PROMETHEUS

All units come with MacFAX & MacKnowledge Software	Price
Promodem 144i Internal for Powerbook	
14.4/14.4SR Fax w/ V.42 & V.42 bis	\$248
Promodem 144e	
ext 14.4/14.4 SR Fax w/ V.42 & V.42 bis	\$198
Promodem 24e	
ext 24/96SR Fax w/ V.42 & V.42 bis	\$128

ZOOM TELEPHONICS

All units come with Microphone LT & STF FAX Software	Price
Faxmodem PBK for Internal Powerbook	
96/48 SR Fax w/2400 BPS Modem	\$99
Faxmodem PKT Portable	
96/48 SR Fax w/2400 BPS Modem	\$109
Faxmodem FXV	
V42 bis/MNP5/2400 BPS, 96/96 SR Fax	\$129
Faxmodem VFX V.32	
V.32 bis, 14.4 data & fax, V.42 bis/MNP5	\$258

Memory

Model	70 NS	80 NS	Model	70 NS	80 NS
1x8	Call	Call	2x8	Call	Call
4x8	Call	Call	16x8	Call	Call

We carry most Mac Memory, Please Call for prices!

Memory for LCIII, Centris 610, 650, Quadra 800

4mb Call	8mb Call	16mb Call
----------	----------	-----------

Hard Drives

CONNER

Unformatted Capacity	Access Time Internal	External
3.5" Disk Drives (2 year Warranty)		
85 mb LPS	17 ms	\$178 \$228
170 mb LPS	12 ms	\$198 \$258
340 mb LPS	9 ms	Coming Soon !!!
540 mb	8.5 ms	\$648 \$708

QUANTUM (All Quantums - 2 year Warranty)

ELS Series (3.5" Low Profile and Low Power Drives)			
85 mb	17 ms	\$168	\$218
170 mb	17 ms	\$188	\$248
LPS Series (3.5" Low Profile and Low Power Drives)			
240 mb	10 ms	\$248	\$308
525 mb	10 ms	\$598	\$698
Prodrive Series (3.5" Half Height Drives)			
1.0 Gig	10 ms	\$898	\$958
1.2 Gig	10 ms	\$998	\$1058

FUJITSU

3.5" & 5.25" Disk Drives (5 year Warranty)			
3.5" 520 mb	9 ms	\$628	\$688
3.5" 1.1 Gig	8.5 ms	\$988	\$1048
5.25" 2.4 Gig	11.5 ms	\$1598	\$1798

SEAGATE

3.5" Half Height Drives (5 year Warranty)			
1.2 Gig	10.5 ms	\$908	\$968
1.9 Gig Baracuda		\$1598	\$1698
2.4 Gig Baracuda		\$2088	\$2148
Elite Series (5.25" Full Height Drives)			
Elite 2 2.4 Gig	11 ms	\$1758	\$1858
Elite 3 3.4 Gig	11 ms	\$2238	\$2338

Optical & DAT Drives

FUJITSU
Dynamo
128MB Optical
28ms, Only \$918



Includes one free disc (1 year Warranty)

128 mb Panasonic Optical	39 ms	\$788
128 mb Epson Optical	29 ms	\$848
128 mb Fujitsu Optical 28 ms		\$918
256 mb Most Optical	31 ms	\$1388

All DAT Drives Include free 90m Tapesoftware W/Retrospect W/Retrospect Remote

WangTek 2.1 Gig DAT	\$888	\$1098
WangDat 5.0 Gig DAT	\$1298	\$1498

Hours: 7:30 - 5:00 Mountain Time • Technical Service and Order Tracking 7:30-4:00 Mountain Time 406-256-5806

• 730 Main Suite 102-556 • Billings, MT 59105 •

Visa, Mastercard, Amex, COD, Telecheck Approved Checks, Gov., Corp., Univ., P.O.s welcome. All new drives, preformatted with latest stable system software.

Factory warranty. Bracket, cables and software included. 30 Day Money back Guarantee. Return Authorization number required for returns. Prices, terms and availability subject to change without notice.

CIRCLE 137 ON READER SERVICE CARD.

Fall 1993
Macintosh Catalog

**EDUCATIONAL
RESOURCES**

Your #1 Source for Educational Software & Technology

In Illinois
708-888-8300

USA/Canada
800-624-2926



MAC

Educational Software for the Holidays and a FREE Gift!!

- Educational Software
- Home, School and Academic Versions
- Lab Packs, Site Licenses and Network Versions
- Multimedia
- Hardware and Accessories

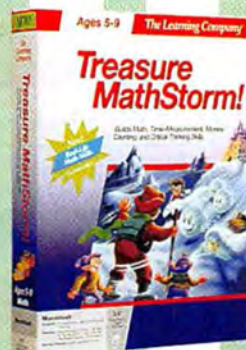


Call today for your **FREE**
Educational Macintosh Catalog!

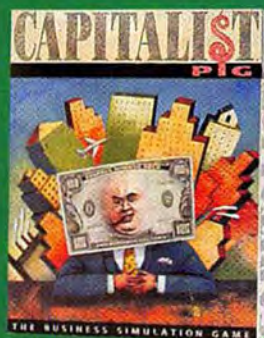
800-624-2926 USA/Canada
708-888-8300 Illinois



\$43⁹⁵ MAC
(Retail \$59.95)
Ages 3 - 10



\$34⁹⁵ MAC
(Retail \$59.95)
Ages 6 - 10



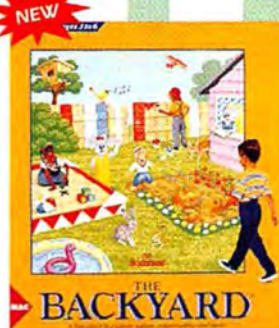
\$34⁹⁵ MAC
(Retail \$59.95)
Ages 9 - Adult



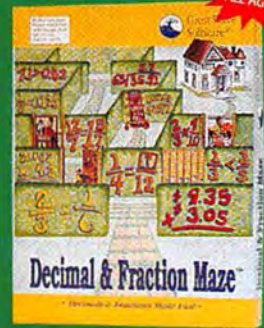
\$33⁹⁵ MAC
School Version \$59.95
Ages 3 - 10



\$42⁹⁵ MAC
Color Version
(Retail \$69.95)
Ages 5 - 12



\$34⁹⁵ MAC
(Retail \$49.95)
School Version \$44.95
Ages 3 - 7



\$44⁹⁵ MAC
(Retail \$69.95)
Ages 8 - Adult
Spanish Version \$64.95



\$24⁹⁵ MAC
(Retail \$49.95)
Ages 5 - 12

Be sure to ask for your FREE Holiday Graphics Disk when you order!

• Checks & School P.O.s welcome • \$25 min. on charge cards
• Free shipping over \$400 in U.S. • Under \$400 add 5% shipping
with \$5 min • Canada under \$200 add 10% with \$6 min./over \$200,
add 5% - also add 7% GST • Prices effective through January 31, 1994

CIRCLE 112 ON READER SERVICE CARD.

Educational Resources • 1550 Executive Dr., Elgin, IL 60123
800-624-2926 • 708-888-8300 • Fax 708-888-8499/8689





“We offer you the best overall value, customer service, technical support, and financing options.”

During our 8 years in business, we've become America's one-stop source for Macintosh solutions. Why have we been so successful when dozens of others have failed? The answer is: SERVICE, SERVICE, SERVICE. We believe in building relationships and making sure you get the best solutions you possibly can...that's why we're America's largest Mac mail order reseller.”

Real Provencher
President

CUSTOMER SERVICE

When you order from us, you get computer experts, not clerks! All of our salespeople are trained in Apple's intensive program, as well as our own. On average, they have three years of Mac experience. They're ready to help you (with a smile!) both before and after the sale.

TECH SUPPORT

Our tech team is well trained, well informed, and well known for their ability to solve customers' problems with a minimum of inconvenience to the customer. We have the best tech support team in the business. Call them toll-free at: 1-800-364-MACS. Please have your customer number ready.

GUARANTEE

OUR FAMOUS GUARANTEE: If you don't like it, we'll buy it back. If you're not 100% satisfied, call for your RMA number and return the product within 30 days of the ship date. We'll cheerfully refund your purchase price. Guarantee applies to all hardware except leases, PowerBooks, consumables, and special-order items.

BUSINESS LEASING*

- 1 **True Lease** (10% buy-out option)
- 2 **Installment Lease** (\$1 buy-out option)
- 3 **Speed Lease**...90- or 180-day terms, with buy-out/conversion to other leases
- 4 **20/20 Lease**...10% security deposit, 20 equal payments, 10% buy-out
- 5 **90-day Deferred Lease**...no payment for 90 days; 1st and last payment in advance

*All leases are subject to credit approval. All lease payments in our ads are based on the "True Lease" program at 48 months. Prices, lease prices, and rates are subject to change without notice. NOTE: Minimum lease payment is \$50 per month.

1-800-364-LESS

HARDWARE THAT FITS • 610 S. Frazier
Conroe, TX 77301

HARDWARE THAT FITS



SUPERMAC™

\$1,739
Lease: \$48/mo. **SuperMac 20" Plus**

SuperMac 21" Mono/Grayscale **\$1079**
SuperMac 20" Multi-Mode XL **2679**
SuperMac 20" Plus **1739**
SuperMac 17" Trinitron **1129**

SuperMac Video Cards
Spectrum/24 PDQ Plus **\$1539**
Spectrum/8 NuBus **399**
Spectrum/24 Series IV **839**
Video Spigot* **389**
Video Spigot & Sound* **519**
Thunder 24 **2289**
Thunderlight **1759**
Thunderstorm Pro **2809**

* 24-bit; captures up to 30 frames/second

ACCELERATORS

DAYSTAR
DIGITAL

NEW! Turbo 040 Accelerators

Get the maximum in 68040 acceleration and 100% compatibility. For Mac IIci and IIxi; includes math chip.
25 MHz Turbo 040 **\$929**
33 MHz Turbo 040 **1099**
FastCache Turbo 040 **179**
40MHz Turbo 040 w/FastCache **1599**

Universal PowerCache Accelerators

Math chip available. Supports 16 platforms.
33 MHz Accelerator **\$339**
40 MHz Accelerator **509**
50 MHz Accelerator **639**
PowerCache Adapter **99**

Photoshop Accelerator

Includes PicturePress 2.5, Charger Plug-ins, and Kodak Photo CD access with clip art images.
Charger **\$669**

RASTEROPS™
THE ART & SCIENCE OF COLOR™

RasterOps Sweet 16 **\$999**
Lease: \$27/mo.



20" Trinitron Multi-Scan **\$2599**
20/20" Multi-Mode **1699**
Sweet 16 (16"; AVs, LCIIIIs) **1069**

RasterOps Video Cards

PaintBoard Turbo* **\$1199**
PaintBoard 8 Li* **349**
PaintBoard Li (24) **849**
PaintBoard Turbo XL* **1499**
24STV **799**

* Also available in Centris 7-inch size

SONY **\$1,169**
Lease: \$32/mo. **17" 1730**

17" 1730 **\$1169**
1430 **699**
2036S **2229**



RealTech™
15" Grayscale **\$449**
Lease: \$13/mo.

E-Machines Monitor

Ultra LX **\$2589**
Color **1699**
16" ColorPage (T1611) **1259**

E-Machines Video Cards

Futura IISX **\$449**
Futura IILX **799**
T20 (20" Trinitron Multi-Mode) **1149**
E20 (20" Color Display) **659**
EtherDock **619**
PowerLink Presenter **449**



SCANNERS

UMAX

UC 630, UC 840 & UC 1260

600, 800, or 1200 dpi color scanners with 51 brightness and contrast levels. Scans flat art in an 8-1/2 x 14" viewing area. Includes full version of Adobe Photoshop. Transparency Option allows scanning of flat art, transparencies, and slides in a 6 x 9" viewing area.
UC 630 Color Scanner **\$1119**
UC 630 Color Transparency Option **679**
UC 840 Color Scanner **\$1299**
UC 840 Color Transparency Option **679**
UC 1260 Color Scanner **\$1859**
UC 1260 Color Transparency Option **679**

RealTech Scan 800 with Transparency Option

RealTech Scan 800

800 dpi color scanner with 200 brightness and contrast levels. Scans flat art in an 8-1/2 x 11-3/4" viewing area. Optional Adobe Photoshop: \$200. Includes ScanMatch color calibration software. Transparency Option allows scanning of flat art, transparencies, and slides in an 8-1/2 x 11-3/4" viewing area.
RealTech Scan 800 **\$1099**
RealTech Scan 800 Transparency Option **496**

\$1,595
Lease: \$44/mo.



Your one-stop source

1-800-364-USER

**TOLL-FREE
TECH SUPPORT**

Have your customer number
ready. Call 1-800-364-MACS.

**TEXAS
INSTRUMENTS**



**MicroLaser
XL Turbo** **\$2,829**
Lease: \$76/mo.

**MicroLaser
Plus** **\$1,199**
Lease: \$33/mo.

TI MicroWriter PS23 \$799
TI MicroWriter PS65 1099
TI MicroLaser Pro 600 PS23 1599
TI MicroLaser Pro 600 PS65 1799

COMPAQ

Compaq Page Marq 15 \$2849
Compaq Page Marq 20 3999

digital™

DECLaser 1152 \$939

RASTEROPS®
THE ART & SCIENCE OF COLOR™

RasterOps CorrectPrint
300i w/36 MB \$6495

SII
Seiko Instruments

Seiko Personal
ColorPoint PSE \$2649

QMS

**QMS 860
Hammerhead** **\$4,279**
Lease: \$118/mo.



SYSTEMS

**We specialize in
special savings
on custom-
tailored systems.**

LC III, 4 MB of RAM, 80 MB hard
drive, RealTech 15" Full Page Display,
and Apple standard keyboard... **\$1799**

Centris 610, 4 MB of RAM, 80 MB
hard drive, Sony 14" color monitor,
and KeyTronic MacPro Plus extended
keyboard... **\$2029**

Centris 650, 8 MB of RAM, 230 MB
hard drive, Sony 2036s Trinitron
color monitor, RasterOps Paintboard
Li video card, built-in Ethernet, and
KeyTronic MacPro Plus extended
keyboard... **\$4939**

Centris 660 AV (with CD), 8 MB of
RAM, 1 MB VRAM, 230 MB hard
drive, Apple AudioVision 14" color
monitor, and KeyTronic MacPro Plus
extended keyboard... **\$3559**

Quadra 840 AV (with CD), 8 MB of
RAM, 230 MB hard drive, Apple
AudioVision 14" color monitor,
and KeyTronic MacPro Plus
extended keyboard... **\$5169**

Quadra 950, 8 MB of RAM, 540 MB
hard drive, Sony 2036s Trinitron
color monitor, RasterOps Paintboard
Li video card, and KeyTronic MacPro
Plus extended keyboard... **\$6919**

Quadra 800, 8 MB of RAM, 230 MB
hard drive, Sony 2036s Trinitron
color monitor, RasterOps Paintboard
Li video card, and KeyTronic MacPro
Plus extended keyboard... **\$6756**



\$7,529
Lease: \$206/mo.

**Quadra 840AV Trinitron
Intermediate Graphics
Solution.** Quadra 840 AV with
8 MB of RAM, 230MB hard drive,
CD ROM, Sony 2036s Trinitron
color monitor with SuperMac
Spectrum 24/Series IV video card,
and KeyTronic MacPro Plus extend-
ed keyboard.

**We install your
card...install your
memory...and test
all components
together before
shipping your
custom-configured
system.**



NETWORKING/COMMUNICATION PRODUCTS

Dayna EtherPrint

Supports AppleTalk Phase 1 and 2
protocols; divides network into
multiple zones.

EtherPrint \$335
EtherPrint Plus 449
EtherPrint T 335

ASANTÉ

Lite EtherNet II/LC \$129
10T Hub 12-Port \$19
FriendlyNet Adapter 75
FriendlyNet LC or NuBus 209
AsanteHub 1012 939
AsantePrint 369
Mini EN/SC 10T 259
MacCon +IIE64 169
MacCon 3 209

SupraFax Modems include STF
and Microphone software & are
backed by a 5-year warranty.
SupraFax Modem 144 169
SupraFax v.32 bis 299
SupraFax 144 (int) 299



Global Village PowerPort
-Gold \$399
-Silver 339
-Bronze 189

Farallon™



\$1,859
Lease: \$51/mo.

PowerBook Duo 230, 8 MB of RAM,
80 MB hard drive, 33 MHz 68030
microprocessor **\$1859**

POWERBOOKS

PowerBook
Duo 210 4/80 \$1599
PowerBook 160 4/80 1959
PowerBook 165c 4/80 2399
PowerBook 180 4/80 3399

PowerBook Portable Docks

Designed for presentations.
Connects the PB Duo to almost
any type of video screen. The
ideal travel dock.

PowerLink Presenter (8-bit) ... **\$449**

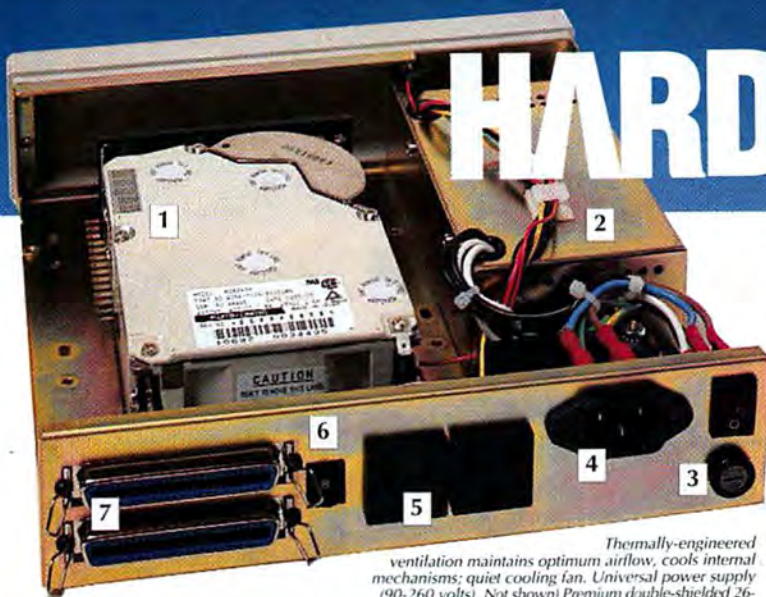
Connects to Ethernet networks,
color displays, external SCSI
devices, etc.

EtherDock **619**

for Mac solutions.

INTERNATIONAL: 1-409-760-2400
IN CANADA CALL: 1-800-972-3018
FAX 24 HRS/DAY: 1-409-539-4141

HARDWARE THAT FITS



7 reasons why our drives beat the competition

1. We offer the highest quality name-brand mechanisms available; fully tested and burned in

Some of our competitors ship untested drives with no-name mechanisms.

2. Shielded 40 watt power supply (65 watt for FH drives) provides an additional margin of safety from electrical interference, keeping your data free of corruption

Check other companies; a 30 watt power supply seems to be standard.

3. External fuse keeps fuse replacement simple

4. Power cable plug-in

5. Two switched outlets provide power to additional peripherals, allowing 1-step system power-up

We know from experience how annoying a daisy-chained hard drive can be during startup...so we made sure ours allows single-action power-up.

6. Easy-to-use pushbutton SCSI I.D. selector switch

7. Two 50-pin SCSI connectors for simple configuration...

...no need to buy extra attachments.

Thermally-engineered ventilation maintains optimum airflow, cools internal mechanisms; quiet cooling fan. Universal power supply (90-260 volts). Not shown Premium double-shielded 26-inch Mac-to-SCSI cable prevents electronic interference

Maxtor®
MICROPOLIS

Name-brand mechanisms in the highest-quality enclosure available

Prices are constantly changing. We'll always give you the best price...just call us for current pricing.

	Model number	Internal price	External price	Formatted Mac capacity (in MB)	Average access time (in ms)	Transfer rate* (in MB/second)	Form factor**	Warranty (years)
170 - 260 MB								
Quantum 170	ELS170	\$229	\$299	160	17	1.4	LP	2
Quantum 240	LPS240	289	359	234	10	1.4	LP	2
Maxtor 245	7245	279	349	245.6	15	3.0 ¹	LP	2
345 - 700 MB								
Maxtor 345	7345	\$389	\$459	345	15	3.0	HH	2
Fujitsu 520	M2624FA	799	869	496	9	2.7 ¹	HH	5
Quantum 525	LPS525	679	749	525	10	2.9 ¹	LP	2
Maxtor 540	MXT-540	839	909	521	9	5.5 ²	HH	2
Conner 540	CP-3540	899	969	515	12	5.5 ²	HH	1
Micropolis 680	M2205	919	1019	585	10	5.0 ²	FH	5
Quantum 700	PRO700	769	839	670	10	2.9 ¹	HH	2
1.0 MB - 1.3 GB								
Quantum 1050	PRO1050	\$1009	\$1079	1000	10	2.9 ¹	HH	2
Fujitsu 1.2	M2266	1249	1349	1079	14.5	3.0 ¹	FH	5
Micropolis 1.225	M2110	1149	1219	1056	10	5.0 ²	FH	5
Maxtor 1.24	MXT-1240s	1229	1299	1240	9	4.5 ²	HH	3
1.7 - 3.6 GB								
Micropolis 1.7	M2217	\$2049	\$2019	1750	10	5.6 ²	FH	5
Micropolis 2.5	M1926	2239	2439	2158	13	4.8 ²	FH	5
Micropolis 3.6	M1936	2829	2929	3022	10	6.0 ²	FH	5

* Transfer rate (or throughput) depends on your Mac CPU and system configuration. For more information, ask your Hardware That Fits sales partner. ** Form Factor Low Profile (LP)=3.5 Half Height (HH)=3.5 Full Height (FH)=5.25

¹ SCSI-2 ² SCSI-2 Fast These drives are most efficient when used with a Macintosh Quadra 800 or 950.

REMOVABLES

REALTECH MAGNETO-OPTICAL
128 MB Epson Drive w/1 disk (29 ms access time; 1 yr. warranty).....\$999

Drive w/Diskette 5-pk.1179

Maxoptix Tahiti II Drive
(652/1.0 GB capacity; 35 ms access time; 1 yr. warranty)....\$3099

REALTECH TAPE BACKUP
Includes Retrospect 2.0 backup software.

TEAC 155 MB Drive.....\$499
TEAC 600 MB Drive.....699

REALTECH DAT
DDS-DC Drive
(2-8 GB capacity; 1 yr. warranty; includes Retrospect 2.0 backup software).....\$1399

The RealTech DAT Drive uses industry-standard DDS-DC compression on a 90-meter tape. Depending on your data, storage capacities may vary from 2 to 8 GB.

SYQUEST®
44 MB Drive (External).....\$359
88 MB Drive (External).....499

Internal SyQuest drives are available. Call for current pricing.

*Includes one disk or tape

REMOVABLE MEDIA

128 MB Optical Diskette.....\$49
5-pack of Optical Diskettes...209
652 MB M-O Cartridge.....159
1.0 GB ZCAV M-O Cartridge....199
155 MB TEAC Tape.....\$199
600 MB TEAC Tape.....299
60-meter DAT Tape.....\$199
90-meter DAT Tape.....199
44 MB SyQuest Cartridge.....\$69
88 MB SyQuest Cartridge.....99

1-800-364-USER

CIRCLE 99 ON READER SERVICE CARD.

Hours: 8 am-7 pm Central Standard Time

30-DAY MONEY-BACK GUARANTEE on all hardware (except lease printer consumables and special-order items). Sorry, no returns on PowerBooks. Before returning merchandise, call our Customer Service Dept. toll free to receive a returned merchandise authorization number (RMA), which must be included with any returns. No C.O.D. returns. Thanks for your cooperation. ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. Hardware That Fits is located at 610 S. Frazier in Conroe, TX 77301.

Call for a **FREE**
catalog with many
more products.



1-800-897-0009
Prices good thru Dec. 15, 1993.

Mac's Place

The Place to call first for great prices and service.

\$35.



UnderWare

Firebreathing dragons vaporize your trash can in this unique desktop diversion. It gives you all the fun of a screen saver while you work! Other screen savers only run while your Mac is idle, but UnderWare runs in the background on your desktop. And these modules don't just blank out your screen, they actually interact with the icons and windows. Like folders sprouting legs and walking off your screen. You get over 30 modules and After Dark modules work too. This is the hottest desktop diversion of the year. "You can't be cool if you don't have it," says Guy Kawasaki. Well, what are you waiting for?

Minimum requirements: Mac LC, 4MB RAM, System 7, Color QuickDraw.

Bit Jugglers
6931 UnderWare



\$29.



The Disney Collection Screen Saver

Delight in the magic of Disney with all your favorite characters in this latest addition to the After Dark family! Enjoy over 15 fantastic sound-packed displays including *The Sorcerer's Apprentice*, *The Little Mermaid*, and *101 Dalmatians*. Includes screen-locking password protection.

Minimum Requirements: Mac Plus, 2MB RAM, System 6.0.4.

Berkeley Systems
6990 The Disney Collection
Screen Saver



FREE
PIZZA HUT
PIZZA!

\$99.



SuperPaint 3.5

Aldus SuperPaint 3.5 combines the best of paint and draw packages into one program. It's won 15 major awards in the last six years because it provides more "graphics horsepower" for the money. And for a limited time, get a \$10 free pizza coupon for Pizza Hut inside your SuperPaint box. Take a break from the holiday bustle and get some free pizza on Aldus.

Minimum requirements: Mac SE, 2MB RAM, System 6.0.5, a hard drive.

Aldus Consumer Division
6493 SuperPaint 3.5

\$224.



SupraFAXModem V.32bis MacPac

"The SupraFAXModem V.32bis is an excellent value," raves Tom Negrino of *Macworld*. It features 14,400 bps data and fax communications with up to 57,600 bps throughput using V.42bis data compression. The modem automatically negotiates the fastest connection, and sending a fax is as easy as printing. You can even delay transmission until times when long-distance rates are lower. The Silent Answer feature detects if an incoming call is fax or voice, and handles it appropriately. The MacPac includes cables, FaxMania, and WorldLink, FREE. FaxMania is a collection of fun cover sheets, and WorldLink lets you connect to the Internet.

Supra Corporation

4017 SupraFAXModem V.32bis MacPac

6651 SupraFAXModem 144 LC \$168.

5575 SupraFAXModem 144 PB \$298.

MAC'S PLACE FEATURED BUNDLE

\$89.



DATEBOOK PRO, TOUCHBASE PRO, and Quicken 4 Bundle

DATEBOOK PRO and TOUCHBASE PRO are now totally integrated, and with this specially priced bundle, you can organize your finances, save money, and save time. DATEBOOK PRO is a powerful calendar and time-management program. Calendaring, scheduling, to-do lists, and alarms combine to keep you informed. TOUCHBASE PRO stores information about your personal and business contacts. PRINT Rolodex cards, address books, envelopes, and more. Move from office to home without missing a beat. File synchronization updates records automatically. And Quicken 4.0 is the latest version of the popular personal and small business finance program. Print and automatically address checks, update your check register, keep track of tax information, and print detailed reports.

Minimum requirements: Mac Plus, 1MB RAM, System 6.0.5, a hard drive or external floppy.

Aldus Consumer Division

7056 DATEBOOK PRO, TOUCHBASE PRO, and Quicken 4 Bundle



\$39.

Actual
size 7"



FREE SNOOPY DOLL!

Year 2 Learn - PEANUTS

Match wits with Snoopy and the PEANUTS Gang and get a **FREE** Snoopy stuffed animal with your order! In Year 2 Learn-PEANUTS, kids can join in five activities where they learn and practice math, geography, reading, coloring, and more. Real-voice narration, zany sounds, and the appearance of Charles Schulz' much-loved characters make this a popular program with kids.

Minimum requirements: Any color Mac, 4MB RAM, System 6.0.7, a hard drive, 8-bit color and monitor.

Image Smith

6866 Year 2 Learn-PEANUTS

(For ages 3-10)



\$16.



Holiday Lemmings

The Holiday Lemmings are here!!! Join your jolly green-haired friends in a wintertime romp through Lemming land. This special holiday version of Lemmings has 32 levels of award-winning Lemmings action in a snowy terrain, complete with bouncing snowmen, brightly wrapped holiday gifts, and an assortment of seasonal trimmings.

Minimum requirements: Mac Plus, 2.5MB RAM for B&W, 4MB RAM for color, System 6.0.5, a hard drive.

7001 Holiday Lemmings



Mac's Place

**If anyone has it,
we do!**

And always at a great price! Our custom database lets us manage our vast inventory with precision. So if it's available from the manufacturer, we've got it in stock - just a day away from your door.

Circle Reader Service # 167.

**ORDER NOW AND GET A FREE
ISSUE OF MACHOME JOURNAL!**

Mac's Place

The Place to call first for great prices and service.



1-800-897-0009

Prices good thru Dec. 15, 1993.

- ★ All the latest products
- ★ All major credit cards
- ★ Quick & easy to order
- ★ Ask about Money Back Guarantees

\$239.

Action! Bundle

This bundle is all you need to create professional-quality, high-impact business presentations. It includes Action! multimedia presentation software, SoundEdit Pro, and Perfect Presentations ClipMedia 3. Action! is a revolutionary application that lets you create dazzling multimedia presentations with sound, motion, text, graphics, animation, video, and interactivity. Assemble your presentation scene by scene using built-in drawing and text tools, or import from other programs. Sixty ready-to-use templates are included. Perfect Presentations contains nearly 1000 digitized videos, graphics, photos, animations, and sounds to jazz up your work - all royalty-free! Then use SoundEdit Pro, the leading product of its kind, to create a fantastic sound track.

Minimum requirements: Mac IIci, 4MB RAM, System 7, color monitor, CD-ROM drive.

Macromedia
7048 Action! Bundle



\$158.

Adobe Audition

Limited editions of two of the industry's leading graphics manipulation programs are now together in one package. Together Adobe Photoshop and Adobe Premiere give you everything you need to enter the world of digital image editing. Start with scanned photos or your own original footage. Or choose from 700 stock photos and dozens of QuickTime movie clips included on the bonus CD-ROM. With Adobe Photoshop 2.5 LE, you can add or correct color with a few simple keystrokes, execute delicate retouching, and even import filmstrips from Adobe Premiere LE and edit individual frames. With Adobe Premiere LE 2.1, you can combine video, audio, animation, still images, and graphics, then produce your QuickTime movie.

Minimum requirements: Premiere - Mac II, 4MB available RAM, System 6.0.7. Photoshop - Mac II, 2MB available RAM.

Adobe
6989 Adobe Audition



\$298.

Movie Movie

Display, capture, and play back full-motion QuickTime movies with sound on your Mac. Colorful full-motion video helps your presentation communicate more effectively, and this is a great value for synchronized video and audio capture. Movie Movie displays video at the standard 30 frames per second and captures NTSC composite video input from ordinary video cameras, VCRs, or laserdisc players. It digitizes the video, automatically synchronizes the audio, and creates a digital file you can see and manipulate right on your screen. Movie Movie samples 8-bit audio at 22kHz and gives you manual control over the recording level. Then you can edit your footage with included ScreenEdit software.

Minimum requirements: System 7, QuickTime 1.5, 16-bit graphics card recommended.

Sigma Design
6986 Movie Movie
6987 Movie Movie w/VideoShop \$388.



\$78.

\$10 OFF.

Transparent Language: Spanish 2.0

The easiest, most enjoyable way to learn a foreign language.

Learn a language by reading interesting literature. It's true. You'll learn by reading and understanding rather than by drill and memorization. Just place your cursor on any text you don't understand and instantly see the meaning, grammar, and more. You read real literature that grabs and holds your attention, all in the original Spanish. You also hear the stories on the included audio cassettes. New to version 2.0 are word review lists and the VOCABULOUS! game. Also available in French, German, Italian, or Latin.

Minimum requirements: Mac 512K, System 6.0.

Transparent Language
4864 Transparent Language: Spanish 2.0



\$88.

Kal's Power Tools 2.0

Kal's Power Tools version 2.0 has been totally redesigned to boost your creative productivity. Software enhancements include an advanced color picker, intelligent keypad control, new transparency controls, real-time previews, and more. These image generators and filters deliver truly superb effects. Apply effects to images from within Adobe Photoshop, Fractal Design Painter, and other programs.

Minimum requirements: Any Mac with coprocessor, 4MB RAM, System 6.0.5.

HSC Software
6878 Kal's Power Tools 2.0 - U.S. and Canadian customers only.



\$558.

Bernoulli MacTransportable Multidisk 150

Enjoy all the benefits of a Bernoulli with the flexibility to read and write to disks of many capacities - 35MB, 65MB, 105MB, and 150MB. And the Multidisk 150 is downward compatible so it reads and writes to 90MB disks and reads 44MB disks. You get unlimited storage expandability, lock-away security, and transportability. The patented Bernoulli design resists head crashes and the sturdy disks can survive a drop of eight feet! This Bernoulli is internally terminated with a single external SCSI connector, so it must be installed as the last device on your SCSI chain.

IOMEGA
5609 Bernoulli MacTransportable Multidisk 150



\$69.

Bullseye TrueType Font Collection

Running low on inspirational fonts? With over 330 new typefaces, the Bullseye TrueType Font Collection can add typographical zest to anything from business letters to 3D flying logos. At under twenty five cents per font, this package is a serious bargain. And it's all on disks so you don't need a CD-ROM drive. Minimum requirements: System 7.

II Productive
6972 Bullseye TrueType Font Collection



Call for a **FREE**
catalog with many
more products.

1-800-897-0009

Prices good thru Dec. 15, 1993.

Mac's Place

The Place to call first for great prices and service.



\$39.



Design Your Own Railroad

All aboard... Now you can design precision, to-scale (H0, N, O, Z, S, G) layouts, right on your Mac. With Design Your Own Railroad, you control all the elements of model railroading - coupling, uncoupling, switching, bridges, crossings, everything. Once you've got a layout, climb aboard the train you created and barrel down the tracks.

Minimum requirements: Mac Plus, 1MB RAM, System 6.0.7.

Abracadata
6428 Design Your Own Railroad

\$36.



Spaceway 2000

Test your intergalactic combat driving skills! Spaceway 2000 is a high-speed, alien-infested freeway. Watch out for all the bad guys like Blockers who follow your movements like bad mimes and keep you from passing. Use laser cannons, automatic shields, and more to battle your way through.

Minimum requirements: Mac Plus (LC recommended), 2MB RAM, System 6.0.5, hard drive, 4MB RAM for color.

Casady & Greene
6906 Spaceway 2000
5956 Crystal Crazy \$36.
6907 ZOA \$36.

\$39.



Sailing Master

Don your sailing cap and deck shoes as you race against your Mac and learn how to sail without getting wet. Sail against as many as three boats, and learn about wind shifts. Course options, skill levels, hazards, and other features offer a challenge for land lubbers and old salts alike. "Sailing Master is a lot of fun - well worth the price," says Macworld. (Nov. '93)

Minimum requirements: Mac \$12K.

Starboard Software
5318 Sailing Master

\$49.



FLOWERScape

Plan your spring garden now with FLOWERScape! View its growth in color, as it would appear in any month of the year. Through its easy-to-use interface, FLOWERScape helps you choose what to grow and where to grow it. Just enter soil, sun, and geographic information, and the program recommends suitable plants. Includes FREE pH test strips.

Minimum requirements: Any Mac with a 256-color monitor and high-density floppy drive, 1.5MB RAM, System 6.0.4, 8.5MB hard disk space.

Voudette
6701 FLOWERScape
6702 FLOWERScape-Windows ...\$49.

\$32.



Axis The Gamecheater

It's a win-win situation with The Gamecheater, the world's first game utility. Your weaponry is superior and you are immortal. Axis The Gamecheater lets you override predefined game functions with assignable hot keys. Add time, lives, money, extra ammo or fuel, and jump to different play levels in your favorite games - whatever it takes to win.

Minimum requirements: Mac Plus, 1MB RAM, System 6.0.7.

Baseline
6896 Axis The Gamecheater

\$41.



ReadySetGrow!

Waaaa! Why didn't someone come up with this sooner? It's a fun, interactive guide for expecting parents that covers all facets of pregnancy and early childhood. Animation, illustrations, sound effects, and text combine to create a thorough reference. ReadySetGrow! also includes sections for a family profile, medical records, calendar, and address book to record the history of your child's beginnings.

Minimum requirements: Any Mac with 1MB RAM (2MB RAM recommended), System 6.0.5, a hard drive.

Atlantis
6991 ReadySetGrow!
6992 ReadySetGrow! Windows ...\$41.

\$48.



F/A-18 Hornet

Get ready for the ride of your life in the cockpit of an F/A-18 Hornet. Each of these 28 missions takes you deep into a new conflict in the Middle East. Incredible fast and fluid graphics, leading edge 3D technology, and stunning custom sound will have you sweating through the heat of each battle. Battle with or against up to three other players on a network.

Minimum requirements: Mac SE/30, 3MB RAM, System 6.0, 8-bit color.

Graphic Simulations Corporation
6502 F/A-18 Hornet

\$37.



Gus Goes to Cybertown

Join Gus, the hippest, most lovable dog ever in this multimedia learning experience. Search Cybertown for the elusive Cyberbuds, three intriguing friends your kids will love. This CD-ROM is completely interactive and has original songs, full-motion video, and captivating graphics and animation. Kids eight and under learn about counting, the alphabet, history, and more.

Minimum requirements: Any Mac supporting 256 colors, 4MB RAM, System 6.0.7, a CD-ROM drive.

Modern Media
7014 Gus Goes to Cybertown CD-ROM

\$28.

Space Madness

Save the galaxy from an evil alien invasion! Sound familiar? Well, you've never seen it like this. Bright, impressive, 3D graphics and equally lush sound help make Space Madness "state-of-the-art shoot-'em-up in the grand tradition," says Inside Mac Games. In fact, they gave it a four out of five rating. Unlike other games of this type, everything interacts with everything else. So enemy ships can shoot each other, and when you blast an enemy base at close range, you may find your ship damaged. The ultra-smooth 60 frames-per-second animation keeps the action fast, and lots of variety will keep you hooked.

Minimum requirements: 2.5MB RAM, System 6.0.7, 2MB hard drive space, 8-bit color or grayscale.

High Risk Ventures
6490 Space Madness



\$39.



Pathways into Darkness

Think fast! You'll have to if you're going to keep up with continuous-motion, 3D, texture-mapped graphics and defeat an alien demon. As a member of a secret special forces team, you've been dropped by parachute near the site of a pre-historic asteroid impact. Separated from your team and unable to locate them, you assume the worst, and embark on your mission to save the world, alone. You'll need your wits, not just firepower, to get by many of the obstacles. Explore miles of catacombs through a smooth-scrolling, first-person interface. Beautifully rendered graphics and active panning stereo sound combine to make Pathways into Darkness the closest thing to virtual reality without a helmet.

Minimum requirements: Any 256 or 8-bit color Mac, 2MB RAM, System 6.0.5, 5MB hard disk space.

Bungle Software
6639 Pathways into Darkness

Mac's Place

The Place to call first for great prices and service.



1-800-897-0009

Prices good thru Dec. 15, 1993.



Money Back Guarantee

CD-ROM Product

Works with your PowerBook

\$10.

**SPECIAL
PRICE
\$8. OFF**



PowerBook Companion

PowerBook Companion contains a wealth of practical solutions for the most common and difficult issues facing PowerBook users. This Second Edition has been updated to cover all the latest PowerBook models including the Duo and color PowerBooks. Topics include set up, software installation, getting connected, care and maintenance, hardware upgrades, peripherals, and components. And within each topic, the differences between portable and desktop computing are addressed. A disk containing a bunch of handy PowerBook utilities is also included. You'll get applications for battery management, cursor control, and file synchronization. "The computer book of the year." — *MacUser*.

Addison-Wesley
7058 PowerBook Companion

\$148.



Rae Assist

Rae Assist has everything you need to successfully manage your contacts, schedule, to do's, projects, notes, pictures, and other personal and business information. All your information is in one convenient and highly-integrated application. Freely tag and link information for easy retrieval. For example, you could list or find all entries that are tagged "clients" or "suppliers." Tags are fully customizable, and linking files keeps you organized. A built-in smart assistant helps you save time. Easily enter and import your data once, and start using it in multiple ways. Quickly find, sort, and print all your information. It was designed with PowerBook users in mind. *MacUser* called it "The Super-PIM."

Minimum requirements: LC, 2MB RAM (2.5MB RAM recommended), System 6.0.7, 5MB hard disk space.

Rae Technology, Inc.
6624 Rae Assist

r a e

\$198.



ClarisWorks 2.0 with Quicken 4

Until Jan. 31, 1994, get Quicken 4 FREE! It's the fastest, easiest way to organize personal and small business finances. ClarisWorks offers you a single application where you can seamlessly combine text, graphics, spreadsheets, and charts all within the same page on the same screen. It's perfect for small businesses, home offices, corporate managers, and notebook users.

Minimum requirements: Mac Plus, 2MB RAM, System 6.0.4.

Claris
6144 ClarisWorks 2.0 with Quicken 4

\$138.



SCSI MicroDock

Expand the capabilities of your PowerBook Duo with this light weight, low-cost, extremely small docking bar. It lets you easily connect your Duo to ADB devices like a mouse and SCSI devices like a SyQuest or CD-ROM drive. And you can use the same SCSI cable to connect your Duo to another Mac, and have it appear as another hard drive on the other Mac's desktop.

Newer Technology
6904 SCSI MicroDock

\$138.



System 7 Pro

System 7 Pro gives you System 7 with new PowerTalk, plus AppleScript and QuickTime software in one package. PowerTalk allows you to correspond and work with others using built-in mail and collaboration services. Use your modem or an AppleTalk network to send messages of any type — including text, images, video, and sound — to other System 7 Pro users. AppleScript is a system level "macro" language that lets you use pre-scripted automated tasks with the click of a button. With AppleScript, you can use your favorite off-the-shelf applications to create powerful, cost-effective solutions. QuickTime is Apple's industry-leading multimedia technology. It lets you view, copy, and paste video animations, images, and sounds as easily as you manipulate text.

Minimum requirements: 4MB RAM (5MB recommended), a hard drive, Apple SuperDrive floppy drive.

Apple
6797 System 7 Pro

5255 System 7 Personal Upgrade Kit \$54.



How to Order

- Call 1-800-897-0009 anywhere in the USA or Canada. Call 406-758-8000 for international orders.
- Fax your order to 1-800-881-3090. International fax orders: 406-758-8080.
- For electronic orders, use Compuserve (76635,660), GEnie (MACSPICE), or America Online (Mac's Place).
- Mac's Place is open from 6 a.m. to 10 p.m. M-F Mountain Time, and 7 a.m. to 6 p.m. on Sat., and 8 a.m. to 5 p.m. on Sun.
- No sales tax (except OH residents add 6% to total, including shipping).
- VISA, MasterCard, Discover Card, American Express, OPTIMA, checks, and P.O.s gladly accepted.
- Your credit card is never charged until your product ships.
- All in-stock items ship same-day (barring system failure, etc.) to your doorstep, for just \$3 (USA) via Airborne Express overnight service. Rural locations may require an additional day for delivery. Areas not serviced by Airborne Express will be sent via Priority Mail.
- Our \$3 shipping charge includes insurance at no extra charge.
- When a partial order is shipped, we pay freight on



- additional shipments.
- Many products carry a money back guarantee (MBG).
- Defective software is replaced immediately with like items. Defective hardware items repaired or replaced at our discretion.
- We reserve the right to revoke money back guarantee privileges.

International Orders

- Call 406-758-8000 for our international sales line.
- Fax your order to 406-758-8080 for international orders.
- We ship throughout the free world.
- International orders will be charged full shipping rates plus insurance.

Mac's Place
100 Financial Drive
Kalispell, MT 59901

Live all aspects of Mac's Place operation, this ad was entirely assembled using Macintosh technology. No paste up. No striping. No bidding. ©1993 Mac's Place, Inc. Mac's Place and the Mac's Place logo are trademarks or registered trademarks of Mac's Place, Inc. All other marks remain the property of their respective companies. All prices and promotions are subject to change without notice. Not responsible for typographical errors.



\$39.

**\$10 OFF.
SPECIAL PROMO**

Square One

Square One stores all of your favorite files in an easy-to-use icon palette. To access a file, just double click on its icon. Group several files into a single work-group icon and open them all at once. No more time wasted rummaging through your hard drive, and no goofy hierarchical menus. Just point and click with Square One.

Minimum requirements: Mac Plus, 2MB RAM, System 7.
Binary Software
7027 Square One

\$64.



Now Contact

New Now Contact is a complete contact manager that fully integrates with Now Up-to-Date to create the ultimate personal information manager. It's designed so efficiently that it launches, finds, and sorts instantly. So you won't be waiting for information when you need it. And it stores lots of contacts in a small amount of disk space. Now Contact also includes a full-featured word processor.

Minimum requirements: Mac Plus, 2MB RAM, System 7, a hard drive.
Now Software
6919 Now Contact

SYEX EXPRESS

**10 years experience
selling Macintosh peripherals**

Keyboards

- Suntouch Mac Extended Keyboard **\$89**
- Suntouch MacPad Extended Numeric Pad for PowerBooks **\$39**

Storage Devices

SYEX SyQuest Removable Drives



- SYEX 88C Removable**
SyQuest 5110C mechanism, accepts 44MB & 88MB media; includes 1 cartridge & 1 formatting utility. Drive comes with a 2 year warranty **\$465**
- SYEX 105 Removable**
3.5" SyQuest mechanism; 105MB capacity; includes 1 cartridge and formatting utility. Drive comes with a 2 year warranty **\$539**

NEC CD-ROM Drives



CDR-74-1 External CD-ROM reader features MultiSpin™ and an access time of only 280 ms; Kodak Multisession PhotoCD™ ready. Requires interface kit. **\$389**

PLI

Removable Drives

- Infinity 40 Ext **\$349**
Infinity 88/RW44 External **\$539**
Infinity 105 3.5" Removable External **\$659**

Mini-Arrays

- 1 GIG External **\$2299**
2 GIG External **\$3099**

Magneto Optical

- 3.5" Magneto Optical Fujitsu **\$1089**

SyQuest

Removable Cartridges

- 45MB **\$65**
88MB **\$95**
105MB **\$59**

* Discover, MasterCard and VISA only. * Prices and product availability subject to change without notice. All specials and promotions are limited to available stock. * Manufacturer's warranties are honored by SYEX Express as well as the original manufacturer. * We ship via Airborne Express Overnight service. (Some rural areas require an extra day for delivery.) UPS rates are available upon request. * Orders placed by 4 p.m. CST weekdays for "in stock" items will ship this day for overnight delivery. * APC/PPD box orders are shipped first class U.S. Mail. P.O. boxes shipped via U.S. Mail. * We are not responsible for typographical errors. * Defective software will be replaced immediately, and hardware will be repaired or replaced at our discretion. * Other returns may be subject to a restocking fee. * A Return Authorization Number is required for any product returned. * All trademarks or registered trademarks are property of their respective owners. * SYEX Express does not guarantee product compatibility.



1030 Wirt Rd. #400 Houston, Tx 77055

'Tis the Season For Great Savings!

NEC
Silentwriter®
Model 1097
\$1399



10ppm, 7MB RAM, PhotoMatch™ grayscale, Adobe PostScript Level 2, 35 Adobe Type 1 fonts, high-speed RISC processor

radius
Radius™
PrecisionColor™
Pivot® Display
\$799*



15", dual-orientation, full page color display. *Price after \$100 mail-in rebate

GLOBAL VILLAGE COMMUNICATION
TelePort/Gold™
\$295

14,400 bps data; 14,400 bps send/receive fax. External



Monitors and Graphics Cards

SUPERMAC.
SuperMatch™ 20-T XL
Multimode Trinitron®
Color Display



Large-screen 20" Trinitron® color display with unmatched versatility. **\$2499**

- SuperMatch 17" Multimode Color **\$999**
Low-cost large screen color display for business.
- SuperMatch 17-T Trinitron® Color .. **\$1049**
Compatible with Quadra built-in video.
- SuperMatch 21" Two-Page Color ... **\$2379**
Use directly with Quadra on-board video.

SuperMac™ Graphics Cards

- Spectrum/24™ Series IV **\$779**
Spectrum/24 PDQ™ Plus **\$1279**
Complete line of SuperMac products available

SONY

- Sony CPD-1320 **\$345**
14" Trinitron; 640 x 480 resolution, incl. cable&stand
- Sony CPD-1304S **\$459**
14" Trinitron®; 25 mm grille pitch, incl. cable & stand
- Sony CPD-1730 **\$1075**
17" Multiscan® Trinitron; Expandable usable area
- Sony CPD-2038 **\$2099**
20" Multiscan® Trinitron; Expandable usable area

radius
Radius
PrecisionColor
Display/20v



Affordable 20" 1152 x 870 "on-the-fly" res. switching **\$1799**

- Radius Two-Page Display/21 **\$799**
21" monochrome display
- Radius 20GS Display **\$799**
20" monochrome display, Mac AV compatible
- Radius IntelliColor™ Display/20 **\$2499**
20" Trinitron®, Macintosh AV compatible.

Radius Graphics Cards

- PrecisionColor Pro 24XP Card **\$479**
PrecisionColor Pro 24X **\$1899**
VideoVision™ Studio Upgrade **\$1549**
VideoVision with software **\$1849**
VideoVision Studio **\$3489**
Complete line of Radius products available

NEC

New NEC FGe Series Monitors

- Featuring EnergyStar for reduced energy consumption
- NEC MultiSync 4FGes™ **\$719**
NEC MultiSync 5FGes™ **\$1095**
NEC MultiSync 5FGp™ **\$1399**

**Set your
creativity
free**

Buy a MultiSync® 6FGp™ monitor with a MacFG™ 24X Color Display Interface Card and get NEC's best MultiSpin™ 74 CD-ROM reader FREE! Offer expires 12/31/93



\$2399

\$1199

FREE

Scanners

UMAX®

- UMAX UC-630LE **\$869**
600 dpi color scanner with Photoshop LE v.2.5
- UMAX UC-840 **\$1279**
800 dpi color scanner incl. Photoshop v.2.5
- UMAX UC-1260 **\$1799**
1200 dpi through hardware, incl. Photoshop v.2.5

Toner

Dataproducts

- 960 Toner **\$49**
1560 Toner **\$249**
Dataproducts Remanufactured Toner Cartridge for Apple LW II & HP II & III .. **\$65**
NEC Long Life EP toner cartridge for NEC Model 95, 97, & 1097 printers **\$169**

Memory

We've Got the Best Memory Prices!

- 4MB SIMMs for LCIII, Centris **\$CALL**
8MB SIMMs for LCIII, Centris **\$CALL**
8MB SIMMs for Quadra 800/840AV **\$CALL**
16MB SIMMs for Quadra 800/840AV **\$CALL**
6MB for PowerBook 160/180 **\$CALL**
8MB for PowerBook 165c **\$CALL**

Modems



- PowerPort/Bronze™ **\$189**
2400 bps data, 9600/4800 bps send/receive fax
- PowerPort/Silver™ **\$319**
9600 bps data; 9600 bps send/receive fax
- PowerPort/Gold™ **\$359**
14,400 bps data; 14,400 bps send/receive fax
- TelePort/Bronze™II (external) **\$99**
2400 bps data, 9600/4800 bps send/receive fax

FROMTHEUS®

- ProModem® 144e **\$169**
14,400 bps data & send/receive fax
- ProModem 144i for PowerBooks **\$239**
- Ultima Home Office PB **\$299**

Supra Corporation®

- SupraFAXModem 144LC **\$165**
14,400 bps data, 14,400 bps fax send/receive
- Supra 144PB **\$279**
Int. for PowerBooks. 14,400 bps data & fax send/rc.

Networking

Farallon®

- Ethernet Cards **\$79**
10Base T NuBus or SE/30
Complete line of Farallon products available

ASANTÉ

- FriendlyNet™ Adapters **\$65**
MacCon+™ LC Thin or 10T **\$139**
MacCon+ IIE64 Thin or 10T **\$139**
MacCon3™ NuBus or IIsi **\$189**
AsantéPrint **\$325**
MINI EN/SC PB/MINI EN/SC 10T **\$299/\$239**
10T Hub/8 / 10T Hub/12 **\$229/\$465**
Complete line of Asanté products available

Dayna

- DaynaPORT™ E/II, LC or si **\$139**
SCSI/Link™ **\$239**
EtherPrint™ or EtherPrint T **\$319**
EtherPrint Plus **\$379**
Complete line of Dayna products available

FREE ExpressNet

Fax your network needs & a list of your systems, including hosts, to SYEX Express (713) 956-5741, and we'll fax back a networking solution that fits your needs—all at no charge

To Place an Order Call:

Mon-Thurs: 8 am - 7 pm

Fri: 9 am - 7 pm

(Central Standard Time)

Corporate POs accepted

1-800-876-3467

International & Canadian Orders: call (713) 957-1899 or fax to (713) 956-5741

CIRCLE 39 ON READER SERVICE CARD.

Call Today!

FREE CATALOG
CALL 1-800-876-3467
or fax name & address
to (713) 956-5741

All Products
We Sell Are
PowerPC
Compatible!

MACCENTER®

NEW! 600 dpi TI microLaser Pro 600



- True 600 dpi
- PostScript Level 2
- 2 paper drawers
- 8 pages per minute
- 20 MHz RISC Processor
- 6 MB RAM (28 MB maximum)
- Macintosh and PC compatible

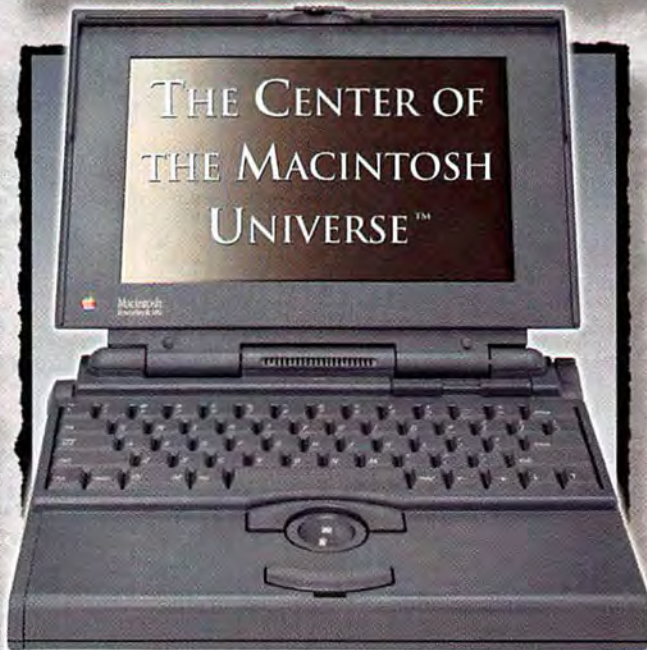
\$1399

TI microWriter PS23 **\$699***

*with any system purchase



NEC SilentWriter 95f **\$899**



Mac CPUs

We stock all PowerBooks: 1458, 160, 165c, 180, 180c, Duos, PowerBook batteries and chargers, carrying cases and modems.

PowerBook 165 4.80	CALL
PowerBook 180c 4.160	CALL
Centris 610 8.230 w/CD ROM	\$2099
Centris 660AV 8.230 w/CD ROM	CALL
Quadra 800 8.500 w/CD ROM	\$3769



\$29

NEW!

- The only PowerBook SCSI adapter which does not interfere with the ADB port and the modem jack.
- The only internally shielded PowerBook SCSI adapter (eliminates SCSI chain problems encountered with other adapters).
- The lightest PowerBook SCSI adapter less than 1 oz. vs. 1/4 pound.
- The most compact - 2 in. vs. 3 in.
- 30 Day money back guarantee.

Accelerators

DayStar 50 MHz PowerCache	\$625/735
DayStar Turbo '040 25 MHz	\$1049
DayStar Value '040i 20 MHz	\$519
Newer Quadra Overdrive	\$259
DiiMOCache 50 MHz	\$729

Fax Modems

US Robotics Sportster 14.4/14.4	\$249
Supra Fax Modem 14.4/14.4	\$299
Twincom PowerTwin 14.4/14.4	\$299
Global Village PowerPort Bronze	\$189
Global Village PowerPort Silver	\$339
Global Village PowerPort Gold	\$399

SIMMs

LIFETIME WARRANTY

4 MB, 80ns (with trade in)	CALL
4 MB, 80ns (Centris, LC III)	CALL
1 MB, 80ns	CALL
10 MB PowerBook 160/180	CALL

MACCENTER®

4930 South Congress, Suite 303
Austin, Texas 78745
FAX 512.444.3726
International Orders 512.445.5114

8 AM - 8 PM CDT Monday-Friday
10 AM - 5 PM CDT Saturday

AppleLink MacCenter
CompuServe MacCenter 75260,334

All returns require approval and are subject to a restocking fee.
© MacCenter 1993



CD ROMs

NEC MultiSpin 74-1	\$399
Apple CD300 w/9 CDs	\$399
Toshiba XM3401	\$599
Pioneer DRM-604x	\$1249

Storage Systems

All MacCenter storage products include FWB Hard Disk Toolkit PE, double shielded SCSI cables & ext. terminator

Puma™ Optical Drives

Puma 256	\$1399
Puma 128	\$899/999

Eagle™ SyQuest Drives

Eagle 44	\$399
Eagle 88c	\$499
Eagle 105	\$639

Cobra™ DAT Drives

(Includes 90m tape & Retrospect)

Cobra Turbo DAT (8.0 GB) 88MB per minute	\$1499
Cobra DAT (2.0 GB) 44MB per min. transfer rate	\$1299

Falcon™ Hard Drives

Micropolis 1.2 GB	\$1099/1199
Micropolis 2.0 GB	\$1449/1549
Fujitsu 1.2 GB	\$1029/1099
Seagate Barracuda 1.9 GB	\$1799/1899
Quantum G0-120	\$269/369
Toshiba 213 (PowerBook)	\$499/699

We stock all Micropolis, Fujitsu, & Toshiba drives.



800 944 0944

Number 1 on Reader Service Card
Number 1 in Service



Introducing the NuDesign Color Printer!

**Here are some of the
things you can do with
this great printer!**

- Stunning business presentations
- Coffee mug imprints
- Color proofing
- T-Shirt transfers
- Create vibrant charts and graphs
- Re-print crisp, clear color photos
- Plaques
- Cap imprints
- Even temporary tattoos!



Actual Prism output using the photo realistic upgrade

....Introducing the Photo-Realistic Upgrade.

Dye-sublimation on the Prism?
The photo realistic upgrade kit gives
you incredible true dye-sub output on
your printer!

**Call for Sample Output.
Photo-Realistic Upgrade.... \$249⁰⁰**

An unprecedented low-cost, high quality color printer!

What does the NuDesign have over other printers?

**The NuDesign Prints twice as fast as
other color printers at 1/3 the price!**

- Thermal Transfer printing
- Print high-quality Color output
at a low cost per page.
- Proofing quality output
- Brighter, richer, more vibrant
colors than other color printing
technologies.



NuDesign Color Printer (MAC)

\$998

NuDesign Color Printer (PC)

\$898

800-621-8469

or Fax us at: 312-664-9784

Hours: 8:30 - 8:00 CST, Saturdays 10:00 - 4:00

Technical Support (8:30-5:00) 800-759-2133

No fee for Visa or Mastercard, Amex accepted, COD, Telecheck Approved Checks, Gov., Corp., Univ., P.O.s welcome. All new drives, preformatted with latest stable system software. Factory warranty. Bracket, cables and software included. 30 Day Money back Guarantee covers drive products only. Return Authorization number required for returns. Prices, terms and availability subject to change without notice.

MAC DIRECT

60 East Chestnut - 145, Chicago, IL 60611



STORAGE OPTIONS

The NuDesign 3.5" Optical

\$858

**Optical
Specials!**

128 MB 3.5" Series II \$798
128 MB 3.5" Series V \$858
256 MB 3.5" Series X \$1398

Optical Drives from Nu Design

All Our Optical Drives include one free cartridge

128 MB 3.5" Series II	fast 37ms access, FWB Software	\$798
128 MB 3.5" Series V	fast 32ms access, FWB Software	\$858
128 MB 3.5" Series VII	fast 30ms access, FWB Software	\$898
128 MB 3.5" Fujitsu Dynamo		\$928
256 MB 3.5" Series X	fast 30ms access, r/w 128mb compatible,	\$1398
600 MB Hyperspace 5.25"	28ms access, 1MB/sec Trans,	\$2598

**DAT
Specials!**

NuDesign 2.1 Gig \$898
NuDesign 5.0 Gig \$1248

The NuDesign DAT Drives

\$898

DAT Drives from Nu Design

All Our DAT Drives include one free 90m Tape

	With Retrospect	With Retrospect Remote
2.1 Gig	\$898	\$1148
5.0 Gig	\$1248	\$1658

Introducing the NuDesign Color Printer!

NuDesign Key Points

- Thermal Transfer printing
- Print high-quality Color output at a low cost per page.
- Brighter, richer, more vibrant colors than other color printing technologies.

NuDesign Printer (MAC) **\$998**

NuDesign Printer (PC) **\$898**



HARD DRIVE HEADQUARTERS

**Fujitsu
Specials!**

520mb 3.5" Internal \$598
1.1 Gig 5.25" Internal \$958
2.4 Gig 5.25" Internal \$1698

Fujitsu Drives

	Internal	External
185 MB 3.5" 12ms, Fast SCSI, 3yr warr, 200,000 MTBF	\$238	\$298
520 MB 3.5" 9ms, Fast SCSI, 5yr warr, 200,000 MTBF	\$598	\$678
1.1 Gig 3.5" 8.5ms, 5yr warr, 300,000 MTBF, Fast SCSI	\$958	\$1018
2.4 Gig 5.25" 11.5ms, 5yr warr, 300,000 MTBF, Fast SCSI	\$1698	\$1798
NEW! 240 MB 2.5" Powerbook drive	\$498	\$578

*Mean Time Between Failure is the average life expectancy of a drive.

Conner Drives

	Internal	External
C 85 MB 3.5" LPS, 2 yr warr, 150,000 MTBF	\$178	\$238
C 170 MB 3.5" LPS, 2 yr warr, 150,000 MTBF	\$198	\$258
C 340 MB 3.5" LPS, 9ms, 2 yr warr, 150,000 MTBF, Fast SCSI	call	call
C 540 MB 3.5" 8.5 ms, 2 yr warr, 150,000 MTBF, Fast SCSI	\$648	\$708

These new Conner drives are so reliable, that Conner has been one of Apple's largest suppliers of drives. The 150,000 hours Mean Time Between Failure and the incredible speed of the 540 are just two reasons to buy a Conner.

Seagate Drives

	Internal	External
1.2 Gig 3.5" 10.5ms, 5 Yr warranty	\$918	\$978
1.9 Gig Barracuda 3.5" 8ms, 5 Yr warranty	\$1598	\$1658
2.4 Gig 3.5" 9ms, 5 Yr warranty	\$1748	\$1798
2.4 Gig Barracuda 3.5" 8ms, 5 Yr warranty	\$2098	\$2158
2.1 Gig Wren 9 5.25" 12.5ms, 5 Yr warranty	\$1438	\$1538
1.6 Gig Elite 1 5.25" 11.5ms, 1 Yr warranty	\$1698	\$1798
3.4 Gig Elite 3 5.25" 11ms, 5 Yr warranty	\$2248	\$2348

Syquest Removable Drives

44 MB Removable	19ms access time, 2 Yr Warr, Includes cartridge	\$318
88C MB Removable	19ms, 2 Yr Warr, Includes cartridge, Fully Compatible	\$498
105 MB Removable	17ms, 2 Yr Warr, Includes cartridge, Fully Compatible	\$598

MAC DIRECT

60 East Chestnut - 145, Chicago, IL 60611

No fee for Visa or Mastercard, Amex accepted, COD, Telecheck Approved Checks, Gov., Corp., Univ., P.O.s welcome. All new drives, preformatted with latest stable system software. Factory warranty, Bracket, cables and software included. 30 Day Money back Guarantee covers drive products only. Return Authorization number required for returns. Prices, terms and availability subject to change without notice.

800-621-8469

or Fax us at: 312-664-9784

Hours: 8:30 - 8:00 CST, Saturdays 10:00 - 4:00

Technical Support (8:30-5:00) 800-759-2133

**Now—Fujitsu reliability
plus the fastest Optical in town!**

Fujitsu DynaMo 128 Optical Drive

- 30 Msec access time plus 1.09 MB/sec data transfer — fastest 3.5" magneto-optical anywhere!
- Less than half the size of other 3.5" rewritable drives — stands horizontally or vertically.
- Unbeatable Fujitsu reliability
- 100% ANSI & ISO compatible
- 1-year warranty

Fastest 3.5" re-writable optical.

For reading and accessing your files pronto, Fujitsu drives deliver un-rivaled 30 Msec data access and 1.09 MB/sec transfer times — this is the fastest 3.5" optical on the market today. We've done plenty of testing right here at MacDirect to prove it.



Fujitsu DynaMo 128MB Optical Drive **\$928.00**

Color & Greyscale Scanners from UMAX and Nikon



above: Nikon's
CoolScan
right: The UMAX
840 & 630 scanners

UMAX UC-630 With PhotoShop LE 2.5.....	\$898.00
UMAX UC-630 With PhotoShop 2.5.....	\$1098.00
UMAX UC-840 With PhotoShop 2.5.....	\$1298.00
UMAX UC-1260 With PhotoShop 2.5.....	\$1898.00
UMAX UG-630LE Greyscale, upgradable to color.....	\$698.00
UMAX Scan Office Greyscale Scanner With Typereader OCR Software, Ofoto and Publish It,	\$898.00
• An incredible OCR package with over \$1000 in software alone,	
Attachments For All Umax Scanners:	
Transparency/Slide Scanner	\$698
Automatic Document Feeder	\$428
NIKON CoolScan Super compact, Fast, 35mm color scanner internal.....	\$1898.00
NIKON CoolScan Super compact, Fast, 35mm color scanner External	\$2298.00

800-621-8469
or Fax us at: 312-664-9784

CIRCLE 131 ON READER SERVICE CARD.

CD-ROM Drives from Mac Direct

MACWORLD'S
TOP-RATED
CD-ROM

Direct Double-Speed Photo CD

Multisession, 265ms **\$448**

Toshiba 3401 Photo CD

Dual Speed, Multisession, 200ms **\$498**



Build your own bundle!

With the purchase of any CD-ROM Drive, select:

- 3 Titles from the Bundle Title list below for only \$79
- 5 Titles from the Bundle Title list below for only \$139
- 8 Titles from the Bundle Title list below for only \$189

AND Call within 90 Days to add more titles to your collection at these prices! Only one of each title per drive purchase

Toolworks	Retail Value!	World Atlas 3.0	\$89
Multimedia Encyclopedia	\$395	CD Fun House 8.0 +PC.....	\$49
Animals San Diego Zoo	\$99	EPS Pro Vol. 1	\$199
CIA World Fact Book	\$99	Font Fun House.....	\$49
Clinton: Portrait of Victory	\$49	Font Pro Volume 1	\$99
Color It!	\$395	Foto Bank & Photo Pro Vol 3	\$129
Desert Storm	\$99	Gallery of Dreams	\$99
Guinness World Records	\$99	Macnificent 7	\$79
Interactive Story Time	\$49	Made in the U.S.A.	\$39
Lucas Game Pack	\$NA	News Bytes Vol 2	\$129
Mayo Clinic	\$99	Ocean in Motion: Costal Clips	\$199
Orient	\$99	Quick Toons - Cartoon Classics	\$49
Publish IT 2.0 W/ Clip Fonts	\$149	Sound Library 2000	\$129
Sherlock Holmes	\$69	Space Time & Art	\$199
U.S. Atlas 2.11	\$69	Trade Opportunities Vol 2	\$149
U.S. History	\$99	Wayzata World Fact Book	\$49

Modems from Hayes & Prometheus

Prometheus Modems

Pro Ultima Home Office (voice)	\$398
Promodem 144i (Powerbook)	\$288
Promodem 144e	\$288
Promodem 24e	\$138

Hayes Modems

Optima 144	\$499
Accura 144 & Fax 144	\$269
Optima 96 & Fax 96	\$399
Accura 96 & Fax 96	\$249
Optima 24	\$129

NEW! Laser Printers from GCC

GCC BLP Eclipse Series



GCC ColorTone



\$1099

\$8599

GCC WRITE MOVE II

Portable, battery powered, 360 DPI..... **\$599**

GCC PLP II

Personal laser printer 300 DPI \$659 |

GCC BLP ELITE

Affordable business laser printer, 300 DPI \$879 |

GCC BLP ECLIPSE 4

High-performance laser printer, 300 DPI..... **\$1099**

GCC BLP ECLIPSE 8

High-performance laser printer, 300 DPI..... **\$1799**

GCC SELECT PRESS 600

11X17, High-performance, 600 DPI \$4499 |

GCC SELECT PRESS 600 PRO

11X17, High-performance, 600 DPI \$5699 |

GCC COLOTRTONE

High-performance, 300 DPI, Color Printer \$8599 |

USA FLEX For Great Mac Peripherals!

Monitors

E-MACHINES

- 16" ColorPage T16 II
.25mm, 1152x870\$1199
20" ColorPage T20
.25mm, 1152x870.....\$2479



SONY Monitor Only

- 14" CPD-1320 .25mm, 640x480\$339
14" CPD-1304 .25mm, to 1024x768 NI.....\$499
17" CPD-1604S .25mm, to 1024x768 NI\$949
20" GDM-2036S .30mm, to 1280x1024 NI...\$2099
Cable adapter (specify model)\$16.95

NEC Monitor Only

- 15" 3FGe .28mm, to 1024x768 NI\$599
15" 4FGe .28mm, to 1024x768 NI\$699
17" 5FGe .28mm, to 1280x1024 NI.....\$1069
17" 5FG .28mm, to 1280x1024 NI.....\$1249
21" 6FG .28mm, to 1280x1024 NI.....\$2279

SPECIAL OFFER!

Buy a NEC MultiSync 6FG Monitor and a
NEC MacFG 24X Color Card and get
a NEC MultiSpin 74 CD-ROM Reader **FREE**.
Offer good until 12/31/93.

SUPERMAC
THE SUPERSOURCE FOR COLOR

- SuperMatch 17T .26mm, to 1024x768\$1049
SuperMatch 20+ to 1024x768.....\$1649
SuperMatch 20TXL .25mm, to 1024x768 ..\$2499
SuperMatch 21 .28mm, 1152x870.....\$2329

Video Cards

SUPERMAC
THE SUPERSOURCE FOR COLOR

8-bit Cards

- Spectrum 8-24 PDQ\$519
Spectrum 8 Series III.....\$389

24-bit Cards

- Thunder 24\$2149
Spectrum 24 PDQ+.....\$1449
Spectrum 24 Series IV\$799

Accelerators

- Thunderstorm Deluxe\$829
Thunderstorm Pro\$2679

NEC

- MacFG 8x\$659
MacFG 24x\$1189

E-MACHINES

- Futura SX\$469
Futura MX\$829
Futura LX\$1039

Memory

- | | |
|------------------------------|------------------------------|
| Standard Mac | Powerbook 140/145/170 |
| 1MB/2MB x 8 | 4MB/6MB |
| 4MB x 8 | Powerbook 160/180 |
| 4MB with Pal | 4MB/6MB |
| 8MB/16MB x 8 | 8MB/10MB |
| Mac IIx | Quadra 700 |
| 1MB/4MB/16MB FX | 4MB/8MB/16MB |
| Centris 610/650/LCIII | Quadra 800 |
| 4MB/8MB/16MB | 4MB/8MB/16MB |
| DUO 210/230 | Quadra 950 |
| 4MB/8MB | 16MB |

TO ORDER, CALL...

Printers



TEXAS INSTRUMENTS

PostScript Laser Printers

- microWriter PS23 2MB RAM (exp. to 4MB),
23 PS fonts\$679
microWriter PS65 2MB RAM (exp. to 4MB),
65 PS fonts\$939

Special Prices on microLaser Laser Printer

- microLaser Plus- 300 dpi, up to 9 ppm, 512K
RAM, 2 credit card font slots, HP LJ-II
emulation, 250 sht. tray, one year limited
warranty\$669
microLaser Plus PS17- Same as above with
17-font Adobe® PostScript® and 1.5MB
memory\$765
microLaser Plus PS35- Same as above with
35-font Adobe PostScript and 1.5MB
memory\$810
microLaser TURBO- RISC-based processor,
300 dpi, up to 9 ppm, 512K RAM, 2 credit card
font slots, HP LJ-II emulation PostScript Level 2
S/W from Adobe with scalable 35 fonts, 250 sht.
tray, one year limited warranty\$1068

CD-ROM- External

NEC

- NEW MultiSpin™ 3Xe External 195ms, 450KB
transfer, 2 yr. warr.\$559
New MultiSpin™ 3Xp Personal/Portable, 250ms,
450KB transfer, 2 yr. warr., White or Gray.....\$429
MAC I/F required, Call for details and pricing.

TEXEL

- Mac Bundle DM-5024 265ms, 64KB cache,
includes: interface kit, speakers, headphones,
Nautilus, Music Sampler, Animals, Groliers Ency.,
U.S. History, Sherlock Holmes\$749



PLI Toshiba Mechanism

- CD-ROM MS 200ms, 330KB per sec., 256KB
cache, interface included\$599

Modems

Hayes External

- Accura 2400 2400bps with Smartcom EZ.....\$75
Accura 96 +Fax96 9600bps data, 9600bps S/R
Group 3 Fax. V.42/V.42bis, Free Smartcom data
and Fax s/w and 25-pin cable\$209
Accura 144 +Fax144 14,400bps data, 14,400bps
S/R Group 3 Fax. V.42/V.42bis, Free Smartcom
data and Fax s/w and 25-pin cable\$229

GLOBAL VILLAGE

- Internal Fax/Modem for Apple PowerBooks**
Bronze, 2400bps data, 9600/4800bps S/R Fax.....\$165
Silver, 9600bps data, 9600bps S/R Fax.\$299
Gold, 14,400bps data, 9600bps S/R\$359

- External Fax/Modem for Apple Macintosh**
Bronze, 2400bps data, 9600/4800bps S/R Fax.....\$165
Silver, 9600bps data, 9600bps S/R Fax.\$299
Gold, 14,400bps data, 9600bps S/R\$359



GCC TECHNOLOGIES



PostScript Laser Printers

- BLP Elite 300 dpi, 4ppm, 2MB Memory, 17
PostScript Fonts-TrueType compatible\$799
Other Configurations Available-Please Call

- BLP Eclipse 300 dpi, 2MB exp. to 4MB,
PostScript Level II, Edge-to-Edge Printing
4ppm, 17 fonts.....\$999 8ppm, 35 fonts..\$1549

High Resolution, Large-Format Printer

- SelectPress 600, 600 dpi, up to 11 x 17 paper
sizes, 35 resident fonts, 8MB RAM, PostScript
Level II, Edge-to-Edge Printing\$3849

Thermal Fusion Portable Printer

- WriteMove II Portable Printer, 2.5 lbs w/
battery, 360 dpi, prints plain paper, envelopes and
transparencies (QuickDraw compatible)\$479

Laser Printers

- Silentwriter Model 95f\$1055
6ppm, 2MB memory exp. to 5MB, 300 dpi, 35
scalable fonts, Genuine Adobe PostScript, Level 2,
HP laserJet III w/HPGL emulation\$869
Silentwriter Model 97
Same as 95f upgraded with 10 ppm and envelope
feeder.\$1055

Drives



Storage Drives

- Infinity 88/RW44 5.25", Zero-foot-print, 20ms
average seek time, 32K buffer
External Mac Drive\$599
Internal for Mac Centris 610\$499
Single 88MB Cartridge formatted\$125
SQ3105 3.5", 14.5ms average seek time, 64K buffer
External Mac Drive\$699
Internal for Mac Centris 610\$609
Single 105MB Cartridge formatted\$99
Internal drives for the Mac IIvx & Quadra 950 available.

MEGA

Makers of Bernoulli

Bernoulli Drive Systems

- Access time 18ms, with Speedcache Plus, 9ms,
Can be used with 35MB, 65MB, 105MB and
150MB disk capacities. Disks can withstand
1000Gs of shock-an eight foot drop to concrete.
MacTransportable MultiDisk 150.....\$799
Floptical 21MB, 3.5", External.....\$429

Scanners

EPSON®

- ESPON ActionScanning System for the MAC
1200 dpi, over 16 million colors. Photo Shop LE,
image editing, cable & SCSI I/F.....\$799
Optional auto. document feeder\$449
Optional transparency unit.....\$739

Mustek

- Langelo Color, Hand held scanner, 400dpi,
262,144 colors, includes s/w bundle\$359
MFS-6000 Flatbed scanner, 600 dpi, 1.8 million
colors, includes interface kit, software bundle\$799
Software Bundle Includes Color It, OCR s/w, Photoshop plug in.

USA FLEX 1-800-950-0354

(708) 582-6206 • FAX (708) 351-7204
Government 1-800-723-2260/Education 1-800-944-5588
Government/Education FAX (708) 351-9871
Habla Espanol 1-800-723-5500 • (708) 924-6780
Pour les Francophones 1-800-723-2256 • (708) 582-6179

Verhandlungen in deutsch (708) 924-6680
(7:00 Uhr bis 15:00 Uhr)(Midnight to 9:00 a.m. cst)
Customer Service 1-800-955-1488
(M-F 7:30 a.m. - 6:00 p.m. & Sat. 9 a.m. - 2 p.m. cst)

ORDER INFORMATION: Minimum order \$80. Minimum shipping and handling per order \$11.95. MasterCard, Visa and Discover accepted for USA, Canada, APO, FPO and Puerto Rico. FLEXCARD accepted for continental USA only. A \$10 surcharge on credit card orders for APO, FPO and Puerto Rico. C.O.D. order under \$500.00, add \$5.00, over \$500.00, add \$10.00 check warranty charge. Call for special UPS RedBlue C.O.D. rates. APO/FPO, add 5% to cover additional shipping and handling. Call for PAL rates. CORPORATE/GOVERNMENT ORDERS: Corporations rated 1A1 or better and government agencies accepted on Net 30 terms with receipt of a valid purchase order. Leaving Plans available for qualified businesses only. RETURN PRODUCT INFORMATION: All returns must have prior authorization from our Customer Service Department (1-800-955-1488 or 1-708-351-7172 Mon. - Fri. 7:30 a.m. to 6 p.m. & Sat. 9 a.m. to 2 p.m. cst). All returns must be in as-shipped condition, with original packaging, including all warranty cards and manuals. Product Returns may be subject to a restocking charge. We will only accept returns on unopened and non-downloaded software. Software compatibility guaranteed only if we have downloaded it on your new FLEX system. Thirty (30) day money back guarantee applies to FLEX system only (does not include printers or other non-installed peripherals). We will not accept returns on laser printers if toner cartridge has been installed. All prices and specifications subject to change, without notice. Not responsible for typographical or printing errors. All trademarks and registered trademarks are of their respective holders ©1993 USA FLEX.

CIRCLE 145 ON READER SERVICE CARD.

Code # MU1203

PRODUCT INDEX

ADVERTISER PAGE

Display Systems & Video

Express Direct 800-765-0040	220-221
MacNews 800-243-9383	262
NEC Technologies 800-NEC-INFO	Covers 5-8
Radius Inc. 800-996-7360	156
Sigma Designs, Inc. 415-770-0100	187

Education

Educational Resources Ltd. 800-624-2926	243
MacAcademy 800-527-1914	209

Financial Management

Intuit 415-322-0573	130
---------------------	-----

General Hardware & Accessories

Apple Computer, Inc.	75-77
FVB Inc. 415-474-8055	184
Hardware That Fits 800-364-LESS	244-246
Orange Micro 714-779-2772	32
VST Power Systems, Inc. 508-287-4600	35
Zeos International Ltd. 800-554-5231	211

Graphics & Design

Caere Corporation 800-535-SCAN	192
Corel Systems 800-772-6735	167
Deneba Software 305-596-5644	15
Graphsoft 410-290-5114	38
HSC Software 310-392-8441	70
MicroFrontier, Inc. 515-270-8109	112
Strata, Inc. 800-869-6855	83

Input Devices

Epson America 800-BUY-EPSON	90-91
Frame Technology 800-U4-FRAME	34
Sophisticated Circuits Inc. 800-827-4669	196

Mail Order

Advance Business Center 800-274-7747	238
Airbourne Computer Technologies 800-442-4836	242
Bottom Line Distribution 512-472-4956	236-237
Direct Connections 800-572-4305	232
Dr. Mac 800-825-6227	261
Express Direct 800-765-0040	220-221
First Source International 800-535-5892	232
Insight Distribution 800-755-3943	263
La Cie Limited 800-999-1219	145-149
LLB Company, The 800-848-8697	226-227
Mac Depot 800-222-2808	219
Mac Zone, The 800-248-0800	40-43
Mac Zone, The 800-258-0882	168
Mac's Place 800-897-0009	247-250
MacCenter 800-950-3726	252
MacConnection 800-800-4444	158-163
MacDirect 800-621-8469	253-255
MacFriends 800-331-1322	165
MacFriends 800-331-1322	176
MacFriends 800-331-1322	180
MacFriends 800-331-1322	186
MacLand 800-333-3353	225
MacNews 800-243-9383	262
MacProducts, USA 800-622-3475	234-235
MacWarehouse 800-255-6227	228-230
Syex Express 800-876-3467	251
Third Wave Computing 800-624-9307	231
USA Flex 800-950-0354	256

Networking & Connectivity

Asanté Technologies 800-662-9686	26
CE Software 800-523-7638	182
Dayna 801-269-7340	172
Farallon Computing, Inc. 800-995-7761 ext. 1	80-81
Lotus 800-448-2500	9
SoftArc Inc. 416-299-4723	6
TechWorks 800-568-6712	72
ZyXEL USA 800-255-4101	215

Organizational Tools

AEC Software 800-346-9413	74
Attain Corp. 617-776-1110	25
Avery 800-462-8379	88

ADVERTISER PAGE

Ceres Software 800-877-4292	8
Gold Disk 800-465-3375	69
Inspiration Software 800-877-4292	8
Mainstay 818-991-6540	12
Microsoft	Covers 2-4, 1

Output Devices

Canon U.S.A. 800-OK-CANON	128-129
Citizen America 800-4PRINTERS	48-49
Hewlett-Packard 800-LASERJET ext. 7685	5
Hewlett-Packard	10-11
PrePress Direct 800-443-6600	207
Proxima Corporation 800-447-7694	33
Tektronix Inc. 503-682-7450	104
Texas Instruments 800-527-3500	121
Texas Instruments 800-527-3500	123-125
Texas Instruments 800-527-3500	127
XANTE Corporation 800-926-8839	266

Performance Enhancers

DayStar Digital 800-962-2077	44
Dimo Technologies, Inc. 800-503-4466	214
Logica Research, Inc. 800-880-0988	268
Mobius Technologies, Inc. 800-800-4334	196
TechWorks 800-421-7758	79

Resources

Safeware 800-848-3469	218
-----------------------	-----

Scanners

Hewlett-Packard 800-722-6538 ext. 7801	28-29
Microtek Lab, Inc. 800-654-4160	154
Mirror Technologies 800-643-3382	224
Relays / Express Direct 800-944-8855	82

Storage Systems

APS Technologies 800-235-3707	264-265
ClubMac 800-258-2622	239-241
DGR Technologies, Inc. 800-235-9748	233
Direct Tech 800-279-5520	218
Focus Enhancements 800-538-8866	71
Iomega 800-756-3959	85
MicroNet Technology, Inc. 714-453-6100	174
Microtech International Inc. 800-626-4276	222-223
NEC Technologies 800-NEC-INFO	59-66
PLI 800-288-8754	195
Spin Peripherals 800-466-1200	267

Telecommunications

Aladdin Systems, Inc. 408-761-6200	89
Best Data Products 800-503-BEST	213
Supra 800-944-8772	86

Utilities

Aladdin Systems, Inc. 408-761-6200	78
Alsoft, Inc. 713-353-4090	181
ASD Software 909-624-2594	166
Berkeley Systems 510-540-5535	14
Binary Software 310-451-9044	169
Central Point Software 800-277-3874	203
Dantz Development 510-849-0293	35
DataViz, Inc. 800-733-0030	189
Dubl-Click 800-266-9525	194
Fifth Generation Systems, Inc. 800-666-2904	30
Insignia Solutions 800-848-7677	178
Kent Marsh Ltd. 800-325-3587	4
Leader Technologies 800-828-0883	16
MSA Inc. 800-366-4622	7
Now Software 800-237-3611	54-55
Now Software 800-237-3611	201
PrairieSoft, Inc. 512-225-3720	188
Symantec Corp.	84, 204

Word Processing

WordPerfect Corporation 800-526-5027	190-191
--------------------------------------	---------

General

Apple Computer, Inc.	17-24
Apple Computer, Inc.	151-153
Intel 800-395-7009 ext. 83	36-37

AD INDEX

MacUser

950 Tower Lane, 18th Floor
Foster City, CA 94404
Phone (415) 378-5600
Fax (415) 378-6903

National

Janet Ryan, Publisher (415) 378-5666
Jeff Cohen, National Sales Director (415) 378-5692
Elizabeth McGinnis, Advertising Coordinator
(415) 378-5606

Northeast (MA, ME, NH, RI, VT, CT, east Canada)

Gina Ciampa, District Manager
Mystic Center, 10 President's Landing
Medford, MA 02155; (617) 393-3065
Ellen Skugstad, Account Representative
(415) 378-5657
Kristina Sweet, Sales Assistant (617) 393-3064

Mid-Atlantic/Southeast (NY, NJ, PA, DE, MD, DC, VA, WV, NC, SC, GA, FL)

John DeCesare, District Manager
One Park Ave.
New York, NY 10016; (212) 503-5416
Karen Anderson, Account Representative
(415) 378-5677
Tom Wan, Sales Assistant (212) 503-5144

Midwest (IL, IN, IA, KS, KY, MI, MN, MO, NE, ND, OH, SD, TN, WI)

Pete Hoffman, District Manager
150 North Wacker Drive, Suite 2500
Chicago, IL 60606
(312) 214-7343
Joann Casey, Account Representative
(415) 378-5622
Marceline Rogers, Sales Assistant (312) 214-7388

South Central (AL, AR, LA, MS, OK, TX, central Canada)

Stephen Shore, Regional Manager - Central
5956 Sherry Lane, Suite 625
Dallas, TX 75225
(214) 360-5785
Joann Casey, Account Representative
(415) 378-5622
Molly Eastin, Sales Assistant (214) 360-5780

Northwest CA (San Francisco and north), NV, AK, OR, HI, MT, WA, ID, Canada (British Columbia, Alberta, and Saskatchewan)

Lynn Ingham, District Manager
950 Tower Lane, 18th Floor
Foster City, CA 94404
(415) 378-5628
Chris Marrow
Account Representative, (415) 378-5658

Bay Area (Carmel to San Francisco)

Pam Ott, District Manager
950 Tower Lane, 18th Floor
Foster City, CA 94404
(415) 378-5605
Nancy Romano, Account Representative
(415) 378-5651
Colleen Dasher, Sales Assistant (415) 378-5634

Southwest CA (NM, UT, WY, CO)

Amanda Waterfield, District Manager
3530 Wilshire Blvd.
Los Angeles, CA 90010
(213) 351-1841
Deborah Tyo, Account Representative
(415) 378-5630

Los Angeles CA (AZ)

Lee J. Uniacke, District Manager
3530 Wilshire Blvd.
Los Angeles, CA 90010
(213) 351-1842
Deborah Tyo, Account Representative
(415) 378-5630
Margy Level-Green, Sales Assistant
(213) 351-1840

RS#	ADVERTISER	PAGE	RS#	ADVERTISER	PAGE
150	Advance Business Center	238	N/A	Lotus	9
16	AEC Software	74	14	Mac Depot	219
137	Airbourne Computer Tech.	242	135	Mac Zone, The	168
17	Aladdin Systems, Inc.	78	135	Mac Zone, The	40-43
15	Aladdin Systems, Inc.	89	167	Mac's Place	247-250
58	Alsoft, Inc.	181	83	MacAcademy	209
N/A	Apple Computer, Inc.	151-153	1	MacCenter	252
N/A	Apple Computer, Inc.	17-24	N/A	MacConnection	158-163
N/A	Apple Computer, Inc.	75-77	131	MacDirect	253-255
146	APS Technologies	264-265	100	MacFriends	165
86	Asanté Technologies	26	102	MacFriends	176
10	ASD Software	166	103	MacFriends	180
60	Attain Corp.	25	101	MacFriends	186
20	Avery	88	152	MacLand	225
N/A	Berkeley Systems	14	153	MacNews	262
31	Best Data Products	213	144	MacProducts, USA	234-235
N/A	Binary Software	169	156	MacWarehouse	228-230
21	Bottom Line Distribution	236-237	77	Mainstay	12
120	Caere Corporation	192	N/A	MicroFrontier, Inc.	112
57	Canon U.S.A.	128-129	114	MicroNet Technology, Inc.	174
25	CE Software	182	N/A	Microsoft	C2-C4, 1
N/A	Ceres Software	8	119	Microtech International Inc.	222-223
69	Central Point Software	203	159	Microtek Lab, Inc.	154
50	Citizen America	48-49	118	Mirror Technologies	224
23	ClubMac	239-241	161	Mobius Technologies, Inc.	196
109	Corel Systems	167	42	MSA Inc.	7
28	Dantz Development	35	N/A	NEC Technologies	59-66
162	DataViz, Inc.	189	104	NEC Technologies	C5-C8
163	DataViz, Inc.	189	169	Now Software	199
133	Dayna	172	170	Now Software	54-55
93	DayStar Digital	44	130	Orange Micro	32
165	Deneba Software	15	155	PLI	195
143	DGR Technologies, Inc.	233	11	PrairieSoft, Inc.	188
19	DiiMO Technologies, Inc.	214	40	PrePress Direct	207
41	Direct Connections	232	158	Proxima Corporation	33
33	Direct Tech	218	68	Radius Inc.	156
35	Dr. Mac	261	151	Relisys/Express Direct	82
43	Dubl-Click	194	59	Safeware	218
112	Educational Resources Ltd.	243	54	Sigma Designs, Inc.	187
N/A	Epson America	90-91	64	SoftArc Inc.	6
124	Express Direct	220-221	141	Sophisticated Circuits Inc.	194
148	Farallon Computing, Inc.	80-81	67	Spin Peripherals	267
105	Fifth Generation Systems, Inc.	30	90	Strata, Inc.	83
N/A	First Source International	232	76	Supra	86
127	Focus Enhancements	71	39	Syex Express	251
66	Frame Technology	34	N/A	Symantec Corp.	84
71	FWB Inc.	184	N/A	Symantec Corp.	204
45	Gold Disk	69	129	TechWorks	72
108	Graphsoft	38	128	TechWorks	79
99	Hardware That Fits	244-246	18	Tektronix Inc.	104
N/A	Hewlett-Packard	10-11	N/A	Texas Instruments	121
N/A	Hewlett-Packard	28-29	75	Texas Instruments	123
N/A	Hewlett-Packard	5	72	Texas Instruments	124-125
53	HSC Software	70	73	Texas Instruments	127
N/A	Insight Distribution	263	147	Third Wave Computing	231
154	Insignia Solutions	178	145	USA Flex	256
N/A	Inspiration Software	8	32	VST Power Systems, Inc.	35
N/A	Intel	36-37	N/A	WordPerfect Corporation	190-191
N/A	Intuit	130	126	XANTE Corporation	266
125	Iomega	85	22	Zeos International Ltd.	211
78	Kent Marsh Ltd.	4	24	Ziff-Davis Press	177
47	La Cie Limited	145-149	36	Ziff-Davis Press	210
63	Leader Technologies	16	13	Ziff-Davis Press	216
88	LLB Company, The	226-227	12	Ziff-Davis Press	268
26	Logica Research, Inc.	268	115	ZyXEL USA	215

WE TAKE CARE OF YOU

If you find **any** of products listed here or in our catalog advertised elsewhere in this magazine, we'll **meet or beat that price!**
The Lowest Prices
The Widest Selection
Over 2,500 Items in Stock
Expert Mac Advisors

- Money Back Guarantees
- Overnight Delivery Only \$3
- Easy Methods of Payment
- Corporate, Governmental and Educational Accounts
- International Accounts
- International Dealers and Distributors Welcome

CALL NOW FOR YOUR FREE CATALOG!



Ask for your **FREE** Field Assistant with purchase of any modem featured in this ad or in our catalog. **FREE**



HAYES...THE RIGHT CONNECTION

Hayes 144 + FAX 144	Item # Hay34
Hayes 96 + FAX 96 (New lower price)	\$228
Hayes 33	Item # HAY33
Hayes 2400	Item # HAY32 \$88
Hayes 144 + Fax 144 (Pocket edition ext.)	Item # HAY36 \$488
Hayes II 3.4 for Mac	Item # HAY10 \$82
HayesConnect 3.0	Item # HAY23 \$75



UMAX UC1260 COLOR SCANNER

The UMAX UC1260 scanner is built to provide users with 2400 dpi high resolution color images. It has a built-in hardware gamma correction to match the original colors. In addition, the UC1260 offers 8-bit gray-scale, 1-bit halftone and 1-bit line art modes to speed up scanning time. Item # UMAX18

UC840	Item # UMAX14	\$1,248
UC630 (New lower price)	Item # UMAX10	\$898

LIMITED BUNDLE OFFER UNTIL 11/30/93



ASSIST™

"SuperPIM!" MacUser. Rae Assist is an integrated personal information assistant that organizes all your personal and business information in an easy-to-use software binder. Using sections for People, Companies, Planner, To Do, Projects and Items, you can link your information together to get more done! Print labels, envelopes, list and schedules. Item # RAE10

Assist/Connectix CPU Bundle	Item RAE11	\$178
Assist/Connectix CDU		

Bundle Item RAE12



PHONEPRO

PhonePro, the award-winning telephone applications builder, works with your SupraFAX-Modem V.32bis modem to give your Mac powerful voice & data handling capabilities. PhonePro's easy-to-use scripting language makes creating & running virtually any type of telephone application on the Mac easy. Item # CYP21

FaxPro 2.2 (Software only)	Item # CYP18	\$398
FaxPro 14-4 V.2.2	Item # CYP17	\$748
PhonePro	Item # CYP13	\$669



MACACADEMY

America's Most Popular Mac Workshops Now on Video!

MacAcademy has a unique Video Training Library that eliminates wading through huge instruction manuals. Each video features a top trainer to teach the program from start to finish. Cut your learning curve by 70%! Most top programs featured on video. See the technique on the screen; replay; fast-forward. Excellent learning libraries for companies, schools, individuals and clubs.

Winner 1992 MACWORLD World Class Award.



CAPITALIST PIG

Animated business simulation game challenges you to build and run your own business under authentic economic conditions. Experience the challenge of business, scandals, fires, and terrorists, as you battle for billions or bankruptcy. Enjoy the results or suffer the consequences. Packed with fun and rave reviews from entrepreneurs of all ages. Item # PLU10



QUICKTOONS™

Now for the first time, enjoy cartoon classics in QuickTime™ on your Mac. These are public domain cartoons featuring Porky Pig, Daffy Duck, Betty Boop and Bimbo. Clips from any of these cartoons will work great for your multimedia presentations or, just sit back and enjoy them for pure entertainment. Item # WZ34-89



PANORAMIX CD VOL II

Where Pictures Are Worth a 1000 Words...and royalty free!!

A high-res professional photographic library CD-Roms with over 90 (2 gigabytes) beautiful photographs of mountains, parks, ocean scenes, panoramic views, exotic flowers and more. All photos are of the highest quality and ready for publishing. License agreements permit purchaser rights to customize images. Photos are in 24- and 8-bit PICT files. Item # ERG11-89



MULTI-AD SEARCH 2.0

An innovative graphics database that allows users to catalog and retrieve Mac-based graphics; provides the ability to open Ver. 1.0 files and Aldus Fetch™ 1.0 files. Search 2.0 offers unlimited potential with 160,000+ records per catalog and faster search times. Item # MUL11

Multi-Ad Creator 3.5.2 Item # MUL10-80 \$538

HARDWARE

ArtZ Painter Bundle	\$488
DayStar 33 Turbo 040	\$1269
DGR 128 Optical Drive	\$988
MicroWriter PS23	\$698
PowerPort & TelePort Gold	\$368
Quantum LPS 240 Internal	\$298
ScanMaker IIXE & Transparency	\$1865
SyQuest 88C 88/44	\$468
Toshiba 3401 Multispeed Multisession	\$548

SOFTWARE

Adobe Illustrator 5.0 (disk)	\$363
Cause 3.0	\$178
Common Ground	\$118
Deneba UltraPaint	\$29
FileMaker Pro 2.03	\$265
Microsoft Word 5.1	\$294
OmniScan 256	\$398
PageMaker 5.0	\$588
QuarkXPress 3.2	\$588

POLICIES: Credit card is not charged until order is shipped. Shipping: \$3 in Continental U.S.A.. UPS overnight guaranteed (subject to credit approval). *Hardware over 10 lbs actual or dimensional weight will be shipped ground. Money Back Guarantees & Returns: call for RA# before return. Retain original packaging. Restocking fee may apply. Low price guarantee good at time of purchase only.

Dr Mac

WE TAKE CARE OF YOU

1-800-825-6227

Fax: (818) 504-9380 or (818) 504-2159
11050 Randall Street, Sun Valley, CA 91352 • (818) 504-1800

CIRCLE 35 ON READER SERVICE CARD.



Products...Price...Now!

RASTEROPS®



\$1599

RasterOps 20/20C 20" Multimode color display. 4 resolutions up to 1152x870.



\$639

Procom CD Station II World's fastest CD-Rom, multisection includes 7 popular CD titles, stereo speakers & headphones

AVEC Colour



Includes Full Photoshop

\$999

Avec Colour Scanner 600 dpi color scanner, interpolates up to 2400 dpi, w/ full Photoshop

Displays & Cards

RASTEROPS®



RasterOps 20T Multiscan Color Display 20" color Trinitron display, 30mm dot pitch

\$2499

PaintBoard Turbo 1199
PaintBoard Turbo XL 1499
MoviePak with Premier 2.0 1199
Media Time/Video Time Call

SIGMA DESIGNS

TRINITRON



Sigma Designs 14" Trinitron Multi-resolution Trinitron display, 25mm dot pitch.

\$499

MW Editor's Choice May '93

17" Ergo View Trinitron Display Call
24-bit Color Max Turbo Card 799
21" SilverView Pro (mono/GS) 1099

Scanners UMAX®

UMAX UC630 with PhotoShop 1089
UMAX 1260 1200dpi Color Call
Scanner with full PhotoShop

INFINI-D®



Infini-D 3D Software Save \$200 on powerful award winning 3D graphics & animation software reg. \$695

\$495

Macintosh



Mac Centris 610 4MB RAM/80MB HD, 610 with 14" color display & keyboard **\$1,999**

Mac Centris 650 Color System \$4,099 8 MB RAM/230HD, w/Ethernet, FPU, 16" Trinitron Display, 24-bit color card, Apple ext. Keyboard & System 7. Add GCC PLPII, 300 dpi Laser Printer for only \$539.
Call for pricing on LCIII, Centris 610 & 650, Quadra 800, and custom configuration.

Printers

GCC TECHNOLOGIES



PLP II 300 dpi, w/free ATM

\$539

BLP Elite, 300 dpi, edge-to-edge 799
NEW Eclipse8, 8ppm, w/Ethernet 1349
BLP IIS 300dpi, 8ppm, 35 fonts 899
SelectPress 600, 11x17, 600 dpi 4149

Dataproducts.



Dataproducts LZR 960 300dpi, 9ppm, RISC PostScript Processor

\$1049

Drives & Networking

FOCUS



Focus 44MB Removable Includes free cartridge. Speedy 20ms access time.

\$349

88 MB Removable Drive 449
88/44 Removable Drive 499
105 MB 3.5" Removable Drive 629
128 MB Optical Drive 1099
650 MB Optical Drive Call
Nubus Thick/10BT 99
LC Thin only/LC 10 BT only 99/99
LC Thin/10BT 149
EtherLan Print (2 printers) 249
EtherLan Print Plus (6 printers) 399
Tranceivers Thin or Thick 99

WACOM

Wacom ArtZ 6" x 8" ADB pressure-sensitive Tablet

\$299

Special Bundle ArtZ with Kai's Power Tools Software **\$379**

Modems

Hayes®



Hayes ACCURA 144+FAX 144 V.32bis/14,400 Data + 14,400 bps Send/Receive Fax up to 57,600 bps data V.42bis data compression. **\$269**

74

Lapis

With Lapis Color cards for SE/30's, LC's and Classics you can get 24-bit color on large screens. Call for prices.



Also from Lapis
LTV lets LC's work w/any TV 299
SCSI Dock all ports for Duos 299

E-MACHINES

E-Machines T16 II/T20 XL Call/2579
E-Machines Futura SX 24-bit card 399
E-Machines NEW Ultra LX Call

CIRCLE 153 ON READER SERVICE CARD.

Mac News



MacNews Hours: M-TH 8am-7pm; Fri til 6pm (CT) Sat 10am-2pm

1-800-723-7755

24hr Fax 312-871-4556 • International Orders Welcomed

1555 SHERMAN AVENUE

SUITE 361 • EVANSTON, IL 60201

Apple, Mac are trademarks of Apple Computer. Prices subject to change without notice. All returned orders may be subject to a minimum 15% restocking fee plus return shipping. Call for manufacturers' RMA before returning. All warranties on Macintosh or Apple brand products sold by MacNews will be honored by MacNews or its authorized agents only. All other manufacturer's warranties still apply.

The Fujitsu DynaMO™ is your all-in-one storage solution.



- Free Action! Multimedia presentation software
- FREE 128MB cartridge
- Unlimited capacity
- Removable, portable storage
- High performance & reliability

FREE ACTION!
COMES WITH \$495 MULTIMEDIA PRESENTATION SOFTWARE
SPECIAL EDITION
Presentation Software

ACTION! 2.5
Special edition multimedia presentation software.
PC Magazine Editor's Choice winner.
A \$495 value FREE with the Fujitsu DynaMO.



The Fujitsu Magneto Optical Drive. Rewritable storage complete with FREE ACTION! multimedia presentation software, 128MB cartridge and cabling.

\$939

ODFJ2511MA Mac, External.....

ODFJ2511PC PC, External (Includes 16 Bit SCSI controller)...\$939

External Case - Small footprint - 3600 RPM - 30ms seek time
1MB per second Data Transfer Rate - ISO Format - SCSI 2

Introducing the all-in-one storage solution. The new Fujitsu DynaMO™. It's the highest performance, external, plug-and-play optical drive for PCs and Macs.

Small size, 1.5" x 5.0" x 8.0". Mammoth memory. Each rewritable cartridge saves up to 128 megabytes, roughly the equivalent of eighty-eight 3.5-inch double-density disks.

Because they're removable and each data cartridge has a life of 30 years, you have virtually unlimited capacity for all of your storage needs.

Buy now and we'll give you ACTION! 2.5, Special Edition Multimedia Presentation Software, a \$495 value - absolutely FREE. ACTION! - the leading presentation software package from Macromedia -- is the perfect compliment to your DynaMO drive. Use ACTION! to create and deliver multimedia presentations with graphics, video, animation and sound.

DynaMO makes it easy to save data-intensive presentations, and Insight makes it easy to buy.

Every Fujitsu DynaMO comes with a 30-Day "Worry-Free" Money-Back Guarantee, and a one year warranty from Fujitsu.

The savings stack up.

To add 128MB of storage, you have to buy:



Plus, 128MB cartridges cost only \$45, which means you can dramatically increase storage for less than half a buck per megabyte. Or, take advantage of our special offer. Five 128MB cartridges including 109MB of FREE clip art are only \$199 -- with the purchase of a Fujitsu DynaMO drive. That's over 600MB for 31 cents a megabyte!



Five pack of 128MB cartridges with 109MB of FREE clip art..... **\$199**

FUJITSU



Call 24 hours.

800-755-3943

1912 W. 4th St., Tempe, AZ 85281 602/902-1176 FAX 602/902-1150

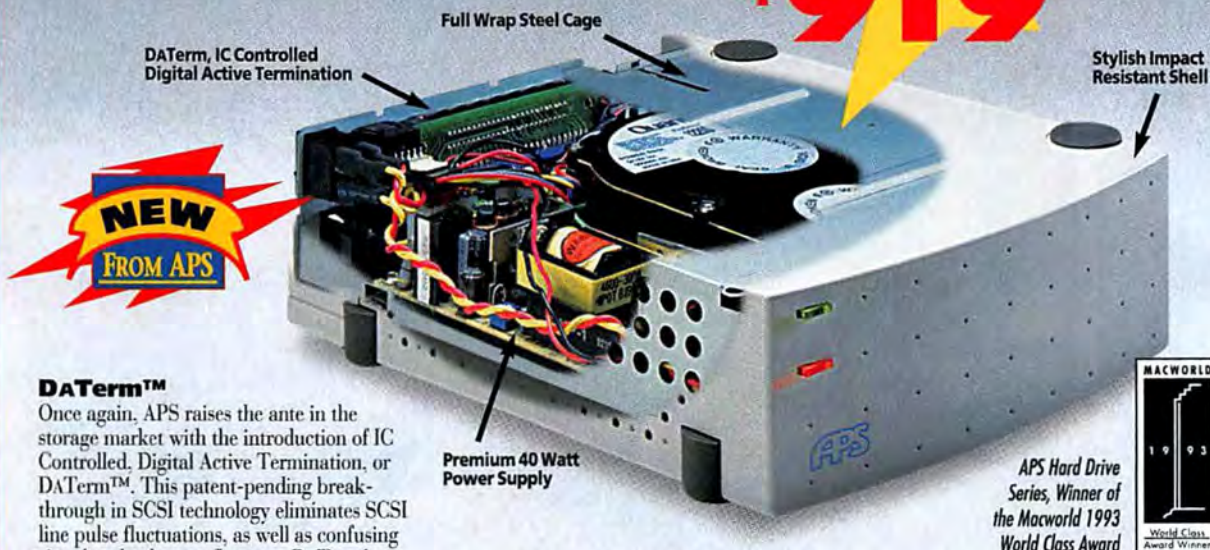
Price and availability subject to change without notice. 30-Day Guarantee may have some restrictions. Shipping is not refundable. All trademarks are the properties of their respective owners. Syquest is a registered trademark of Syquest, Inc. Floptical is a trademark, and Bernoulli is a registered trademark of Iomega, Inc. *Estimated direct channel price. ©Insight Direct, Inc. 12/93

End Your SCSI Nightmares

APS Takes You Beyond the SCSI Barrier with DATerm™

APS Q 1050 (SR 2000 External)

\$919



DATerm™

Once again, APS raises the ante in the storage market with the introduction of IC Controlled, Digital Active Termination, or DATerm™. This patent-pending breakthrough in SCSI technology eliminates SCSI line pulse fluctuations, as well as confusing signal and voltage reflections. DATerm's unique impedance-matching characteristics provide superior signal-to-noise ratios by maintaining a constant 110 Ohm impedance, and a consistent 2.81 volts - ideal for SCSI-1 and SCSI-2 implementations. DATerm decreases SCSI retries, allows more reliable data transmission and eliminates the need for separate external termination. With switchable DATerm,

improved SCSI stability can be expected in even the simplest SCSI chains.

SR 2000™

DATerm, an APS exclusive, is only available in our new SR 2000 enclosure. The SR 2000 is the best external 3.5" drive enclosure available on the market today. It features a premium 40 watt heavy-duty, auto-switching digital power supply inside a

fully-shielded steel enclosure, covered by a rugged, impact-resistant plastic shell. Using premium components and, as always, the best possible cabling inside and out, the SR 2000, with DATerm, will help end your SCSI nightmares.

APS Hard Drive Series, Winner of the Macworld 1993 World Class Award



APS HARD DRIVES

Model	Internal	ZFP	SR2000
-------	----------	-----	--------

➔ 127MB - 245MB

APS Q 127² \$189 \$259 \$279
Quantum 127ELS mechanism

MW APS Q 170² 199 269 289
Quantum 170 ELS mechanism

APS Q 240² 259 329 349
Quantum LP240 mechanism

APS MX 245² 259 329 349
Maxtor 7245 mechanism

* Internal drives for Quadra 800 and Centris 610 available.

- 30-day money-back guarantee • All drive products carry a 30-day money-back guarantee. Your risk in the transaction is the cost of shipping.
- Disk-for-disk replacement warranty • SyQuest, most Quantum, Maxtor and DAT drives are warranted for two years, Fujitsu drives are warranted for five years. WRN, Quantum 2.5" drives, TEAC drives, all CD-ROMs, MOs and SyQuest carts are warranted for one year.
- Prices and specifications subject to change without notice. Refused orders subject to restocking fee.
- All our hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh. All hard drives from APS Technologies come preformatted with Apple's System 7.0.1 software, at least 9.2MB of compacted publicly-distributable software, and APS Technologies' APS POWER TOOLS SCSI formatter/hard disk partitioner.
- All external drive products and cases come with a premium 25 x 50 SCSI cable. Companion drives (not cases) include a 30 x 50 PowerBook SCSI cable.
- Toll-free technical support as often and for as long as you need. Regular hours are 8 am to 8 pm Monday thru Friday, 9 am to 5 pm Saturday, Central Time.

Model	Internal	ZFP	SR2000
-------	----------	-----	--------

➔ 345MB - 1.225G

APS MX 345² \$399 \$469 \$489
Maxtor 7345 mechanism

APS Q 525² 649 719 739
Quantum Lps525 mechanism

APS MX 540² 799 869 889
Maxtor MXT540 mechanism

APS Q 1050⁵ 839 899 919
Quantum 1005S mechanism

APS MS 1.2G⁵ 1099 1169 1189
Micropolis 2112 mechanism

APS Q 1225⁵ \$1099 \$1169 \$1189
Quantum 1225P mechanism

M-F 6AM-10PM CST.
SAT & SUN 9AM-5PM CST.
International: 1-816-483-6100 FAX: 1-816-483-3077 (24 Hours).
Toll Free UK: 0800-897-545 Australia: 0014-800-125-875.
For a Free Catalog, call APS Sales: 1-800-233-7550
Infofax: 1-800-374-5802

APS Technologies 6131 Deramus
Kansas City, MO 64120

Model	Internal	ZFP	SR2000
-------	----------	-----	--------

➔ 1.24G - 3.0G

APS MX 1240⁵ \$1249 \$1319 \$1339
Maxtor MXT1240S mechanism

APS ST 1.6⁵ 1899 — 1999
Seagate ST 11950N mechanism

APS MS 1.7⁵ 1349 1419 1439
Micropolis 2217S mechanism

APS ST 2.0⁵ 2299 — 2399
Seagate ST 125500N mechanism

APS MS 2.4G⁵ 1999 *2099 —
Micropolis 1926 mechanism

APS MS 3.0G⁵ 2499 *2599 —
Micropolis 1936 mechanism

1.5 Denotes length of manufacturer's warranty
*External Case is Full Height Only, not ZFP or SR2000.

APS Technologies



Never Back Up to Anything Else!



APS DAT

\$799



This incredible offer is unmatched anywhere!

Get this premium APS DAT with a full two-year warranty, Retrospect by Dantz, superior APS cables, a 60 meter Maxell DAT tape and APS' legendary service and support. Backup up to 2.0GB on a 90 meter tape with backup speeds as high as 10MB per minute.... Amazing!

....and Don't Forget Our Incredible CD-ROM Offer!

The APS T 3401 is a double-speed unit, fully multi-session photo CD compatible CD ROM drive based on the fastest mechanism available today.... An unbelievable deal!

***B.O.Y.B. - Build your own bundle! Buy any 6 CDs from our full line of CD titles and you can get the fastest CD ROM drive available - the APS T 3401 - for just \$399**

Call our 24-hour InfoFax line today to receive a complete list of CD titles.

Call 1-800-374-5802 and request document ID# 6001.



APS T 3401
as low as...

\$399

30-Day
Money-Back
Guarantee

Free Technical
Support

Disk-For-Disk
Replacement
Warranty

Manufacturer-Direct
Quality Assurance

Warranty Repair
Return-Overnight

24-Hour Product
Information by
InfoFax

THE
APS
ADVANTAGE

POWERBOOK ACCESSORIES

POWERBOOK DRIVES

Model	LW Pro 630	Internal	AC/DC Case
APS GRS 80 ¹	\$249	—	—
APS GRS 160 ¹	349	299	429
APS T 213 ¹	519	469	599
Toshiba 2224 mechanism			
APS T 340 ¹	704	659	789
Toshiba 2224 mechanism			

APS SCSI BOY & DOC

APS SCSI BOY	\$29
APS SCSI DOC	49

- Rugged Palm-Sized 25-30 PowerBook SCSI Adapter
- Never Get Caught with the Wrong Cable Again!
- Dealer Inquiries Welcome
- SCSI DOC includes a docking adapter for the Apple PowerBook and termination power indicator.



DAT

Model	Internal*	External
APS DAT	\$749	\$799
APS Turbo DAT	1249	1299
APS Hyper DAT	1649	1699
60 meter DAT tape — \$12, 10 Pack — \$110		
90 meter DAT tape — \$16, 10 Pack — \$130		
*Internal models for Quadra 900 and 950		
All APS DAT Drives Include Retrospect by Dantz		

TAPE DRIVES

APS T 155 MB Tape Backup	\$479
155MB Backup Tapes — \$19, 10 pack \$180	

MAGNETO OPTICAL

Model	Internal*	External
APS 128MB MO	\$869	\$899
Mechanism is Epson Magneto-Optical OMD-5010		
128 MO cartridge — \$49		



Visa, MasterCard, Discover, American Express: No Surcharge.

CIRCLE 146 ON READER SERVICE CARD.

CD ROM BUNDLE

Model	Without Bundle	B.Y.O.B.*
APS T 3401	\$499	\$399

SYQUEST

Model	MB	External
APS SQ 555	44MB	\$339
44MB cartridges — \$65 unformatted, \$70 formatted		
APS SQ 5110c	44/88	519
88MB cartridges — \$100 unformatted, \$105 formatted		
APS SQ 3105	105MB	599
105MB cartridges — \$59 unformatted, \$64 formatted		



Same day shipping for personal checks
(Restrictions apply)

APS
Technologies

Great Products.
Priceless Support!

1-800 235-3707



"Zero to 100 in 4½ Seconds,...

U.S. MOTORSPORTS

Xante Corporation
2559 Emogene Street
Mobile, AL 36606

Dear Xante:

As owner of a race car marketing company, I have been using your Accel-a-Writer 8100 imagesetter with 1200 dpi output and it always goes to the races with my staff to produce on-the-fly printing of press updates, badges, award certificates, newsletters, you name it.

Recently, I had a need to print a small run of 11" x 17" folded newsletters with several black & white photos at 133 lpi. The results were phenomenal! Zero to 100 in 4 1/2 seconds! Fastest high quality output I have ever seen, like an Indy car, Xante's Accel-a-Writer 8100 is designed to win races.

I plan to get a local printer to print a year's supply of color headers with our 11" x 17" paper stock. This way I can pull a quantity for each race and print the finished black plate on our 8100 for quick turnaround time in distributing a four page newsletter.

Oh, by the way, Parnelli Jones has a couple of sons ready to win you more races at better than zero to 100 in 4 1/2 seconds.

Thank you, Jim Joiner



We receive so many letters
from our satisfied 8100 owners.
This is just one that proves -
We're Blowing The Doors Off The Competition!



...the fastest high quality output I have ever seen, like an Indy car, XANTE's Accel-a-Writer 8100 is designed to win races." Jim Joiner, U.S. Motorsports, Redondo Beach, Calif.

XANTE® has now entered the racing circuit with its high performance, 1200 X 1200 dpi imagesetter. The Accel-a-Writer® 8100 has more power and better handling capabilities than any other imagesetter on the track. When these engines start, no one can catch us! Engineered for speed at 8ppm - your business will take off and win!

For only \$6695, you'll get a 29030 RISC Processor and 48 MB of RAM. The 8100 can also be purchased at 960, 800 dpi, or, for just \$3995, you can get 600 dpi and upgrade later. The 8100 is fully PostScript® Level 2 Compatible and comes with 35 resident typefaces. Simultaneous Mac®/PC Printing is simple with concurrently active AppleTalk®, Parallel and Serial interfaces. EtherTalk® is also available.

Oh, and check out our new oversized 11" X 17" format! It's great for an edge-to-edge finish.

You can take the checkered flag, with a lease plan for as little as \$90 per month. XANTE's optional On-Site Service plan will also put a new spin on the track. Our fast, professional services and support is the Indy way of doing things.

For more information, call XANTE today at:

1-800-926-8839 ext. 2208
Fax 205-476-9421



Optional on-site service provided by Xante,
in partnership with Olivetti North America.

olivetti

*Optional
*Ethernet, supporting EtherTalk protocol, is optional



© 1993 XANTE Corporation. XANTE Accel-a-Writer is a trademark of XANTE Corporation. PostScript is a registered trademark of Adobe Systems Incorporated, registered in the U.S.A. Other brands and product names are trademarks or registered trademarks of their respective holders. 2559 Emogene St., Mobile, AL 36606, Post Office Box 16526, Mobile, AL 36616-0526 USA. Tel. 205-476-8189, Fax 205-476-9421.

CIRCLE 126 ON READER SERVICE CARD.

1 GB TOSHIBA FROM \$799!

SPIN HIGH-SPEED/ HIGH-CAPACITY DRIVES



Our high capacity Spin Drives come with speed-demoniac mechanisms from DEC, Seagate and Quantum. Check the chart at the right for blazing access times, and throughput rates. Available in Internal, Zero Footprint and Compact enclosures. (Compact pictured)

Spin/Toshiba MK-537 1 GB Drive (internal) **\$799.00**

Spin/Quantum PD-1050 1 GB Drive (internal) **\$849.00**

Spin/DEC DSP 3105 1 GB Drive (internal) **\$999.00**

NEW!

SPIN SYQUEST DRIVES



The latest in removable technology. It's small. But big. Small due to its Lilliputian footprint. Big because it accepts 3.5 inch media holding 105 Megs. Also the SyQuest 44/88 accepts both 44 MB and 88 MB media.

The Spin 3.5-inch SyQuest Drive w/cart. **\$599.00**

SyQuest 5110C 44/88 SyQuest Drive w/cart. **\$499.00**

SyQuest 44 MB Removable w/cart. **\$329.00**

SPIN TOSHIBA XM 3401 CD ROM DRIVE



The Toshiba mechanism in this drive is double speed making the Spin CD ROM perfect for Photo CDs and MultiSession applications.

Toshiba Double Speed CD ROM Drive **\$499.00**

The Double Spin CDR 84 CD ROM Drive **\$449.00**

Pioneer QuadraSpin™ - 6 disc capacity **\$1249.00**

SPIN 3.5 OPTICAL DRIVE



Small footprint, pricetag: under \$1000. Accepts ISO standard 128 MB capacity 3.5-inch cartridges compatible with other machines. 2-yr warranty.

The Spin 3.5 Optical Drive w/cart. **\$949.00**

TEAC OD-3000 (42ms. access time and 1 yr. warranty) **\$799.00**

GO FOR A SPIN WITHOUT BEING TAKEN FOR A RIDE.

MORE THAN JUST A LOW PRICE.

Flip through these pages (not right now, it's just a figure of speech), and you'll see a lot of low prices. The difference with Spin is that you get more. And not just a little more. We include many free things that others charge you for. Like a double-shielded SCSI cable. External terminator. A power supply designed for constant use. Not to mention our own Spin Disk Utilities with free upgrades for a year, system software, and unlimited tech support as long as you own a Spin drive. We aim to please. Call one of the other guys and ask what they'll give you for free. The cardboard box? The owner's manual? Then call us back.

30 DAYS TO DECIDE.

If you're not satisfied, neither are we (we're referring, of course, to Macintosh peripherals only). That's why every Spin product comes with a 30-day money back guarantee. Test-drive any Spin product. Give it a real workout. If you're not happy, return it within 30 days for a refund.

ORDER DIRECT 1-800-466-2900



**CALL FOR LATEST
PRICES**

Spin™

PERIPHERALS

A DIVISION OF SPIRIT TECHNOLOGIES, INC.
381 ELLIOT ST., NEWTON UPPER FALLS, MA 02464-1162
PHONE: 1-617-965-9882

FAX: 1-617-965-6257

THE LOWEST MEDIA PRICES ANYWHERE



SyQuest unformatted 44 MB	\$58.99
SyQuest unformatted 88 MB	\$89.99
SyQuest formatted 44 MB	\$69.00
SyQuest formatted 88 MB	\$105.00
SyQuest 105 MB 3.5-inch cartridge	\$58.99
Optical 3.5-inch cartridge	\$35.00
DAT 90 meter (4mm) Tape Cassette	\$17.00

SPIN DAT DRIVES



If it's your job to archive a ton of files, choose one of our Spin DATs. Standard DAT holds 2 GB. Compression model, up to 8 GB. Includes DANTZ Retrospect®, version 2.0

Spin Standard DAT **\$999.00**

Spin Compression DAT **\$1199.00**

ZERO FOOTPRINT DRIVES



There's a Spin Zero Footprint drive for every application. They include everything you need to get up and running. Check this chart for specs and prices.

Capacity (MB)	Model Number	Av. Acc. Time (msec)	Transfer rate (K/sec)	MFG warranty (mos)	Int. Drive Price	Zero FP Drive Price	Compact Drive Price
Quantum							
85	ELS 85S	17	1800	24	\$179	\$229	-
127	ELS 127S	17	1800	24	\$189	\$239	-
170	ELS 170S	17	2000	24	\$199	\$249	-
240	LPS 240S	16	2300	24	\$259	\$319	-
525	LPS 525S	16	2300	24	\$599	\$649	\$699
1.2GB	PD-1225	10	2700	24	\$999	\$1,049	\$1,099
1.8GB	PD 1800S	10	3000	24	\$1,399	\$1,449	\$1,499
GO 120 (pwrtbk)	GO 120	17	1900	12	\$259	-	-
Digital							
2.1GB	DSP-3210	9.5	3600	60	\$1,999	-	\$2,049
Seagate							
1.05GB	ST-11200N	10.5	3200	60	\$999	\$1,049	\$1,059
2.1 GB	Barracuda	8	4500	60	\$2,249	-	\$2,349
Toshiba							
1.2 GB	MK-538	12.5	2600	36	\$949	\$999	\$1,049
210 (pwrtbk)	MK-2224	12	1800	12	\$499	-	-
340 (pwrtbk)	MK-2326	12	1800	12	\$649	-	-

Spin, and the Spin logo are trademarks of Spin Peripherals. All other trademarks are the property of their respective holders.

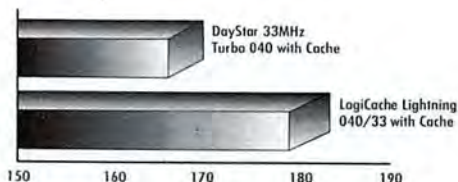
CIRCLE 67 ON READER SERVICE CARD.

LIGHTNING PERFORMANCE FOR YOUR MAC



NEW LOGICACHE LIGHTNING 040 ACCELERATORS

With almost double the speed and 16 times the caching capabilities of the 68030, the LogiCache Lightning 040 provides more performance per dollar than any other accelerator on the market. Choose 25, 33, or 40MHz speeds of raw processing power with the superfast Motorola 68040 from Logica Research. The LogiCache Lightning 040 design boasts superior performance over higher cost NuBus cards and similarly priced 68030 processor boards.



FASTER AND LESS EXPENSIVE

Independent tests prove the LogiCache Lightning 040 outperforms the competition by up to 40% — at a savings of up to 25%. Choose the accelerator with the highest price/performance ratio available, from Logica Research.

ORDER DIRECT FROM LOGICA **\$745**
Prices start as low as



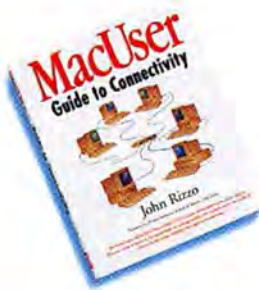
1-800-880-0988

8760-A Research Blvd, Suite 313 • Austin, Texas 78758 • Tel 512.636.2168 • Fax 512.832.1533
Pay by MasterCard, Visa, American Express, Prepay, COD, or Purchase Order (corporate accounts, on approval only). International orders welcome. We regret that we cannot be responsible for typographical errors. Texas residents add 8% sales tax. Macintosh is a registered trademark of Apple Computer, Inc.
Performance Graph depicting Adobe Photoshop® Unsharp Mask function on Macintosh® IIfx. Tests performed independently by Clouche Consulting of Austin, Texas. Call for more information.

CIRCLE 26 ON READER SERVICE CARD.

Mac Authorities

The Authorities at *MacWeek* and *MacUser* bring you insider information and advice on how to get the most out of your Macintosh.



MacUser technical editor John Rizzo tackles the full spectrum of Macintosh connectivity options. He covers everything from basic telecommunications to full-blown networks, showing you how to master and extend the built-in connectivity power of the Macintosh.

ISBN: 1-56276-056-4
Price: \$27.95



MacUser contributing editor Gregory Wasson critiques hundreds of top-notch programs, explains how to obtain them, and notes their requirements and limitations. Includes a bound-in disk that contains a selection of the finest Macintosh shareware available.

ISBN: 1-56276-076-9
Price: \$34.95



Macintosh expert and *MacWeek* columnist Don Crabb cuts to the heart of System 7 and reveals little-known hints, tips, and strategies that will put its power in your hands. What works, what doesn't, and how users of all levels can take advantage of this innovative operating system are all covered in this user-friendly sourcebook.

ISBN: 1-56276-029-7
Price: \$24.95

Available at fine bookstores, or call
1-800-688-0448
ext. 7364



© 1993 Ziff-Davis Press

CIRCLE 12 ON READER SERVICE CARD.

MARKETPLACE MacUser

MARKETPLACE

The cost-effective buying arena that provides sellers of Macintosh compatible products 3 advertising options: Premier, Classified and BusinessCard to meet their specific advertising goals, reaching 410,000 Macintosh Business Buyers. All sections are set up by product category and offer reader service.

PREMIER

The four-color showcase that spotlights leading-edge products and services.

270-274

CLASSIFIED

Flexible-format display advertising that offers diverse sizes plus two and three color options. Section meets dynamic advertising needs for all Macintosh products and services.

275-297

BUSINESS CARD

A forum for innovative, unique, low-cost and hard-to-find Macintosh hardware, software, and miscellaneous products and services.

298-299

PRODUCT CATEGORIES

HARDWARE

Accelerator Boards
Bar Coding
CD-ROM
Communications
Computer Systems
Data Acquisition
Disk Drives
Diskettes
General
Input Devices
Memory Upgrades
Networking
Peripherals
Power Book Products
Power Book Supplies
Printers
Scanners
Security
Tape Drives
Used Equipment

SOFTWARE

Accounting
Back Up Systems
Bar Coding
Business
Business Time Management
CAD/CAM
CD-ROM
Communications/Networking
Desktop Publishing
Educational
Emulation
Engineering
Entertainment/Games
Financial
Fonts
Foreign Languages
Genealogy
General
Government
Graphics
Health
Language Tools
Legal
Lottery
Medical/Dental
Music/MIDI
Networking
Personal Management
Programming Tools
Public Domain
Real Estate

PREMIER

CLASSIFIED

BUSINESSCARD

270	275	298
270	276	
		298
	276	
270	283	
	285	
	285	
270	285	
	288	
271		
271		
272	288	298
	288	298
		298
	291	
272	291	
	292	298
		298
	291	
273	292	
		299
273		
	292	
	293	299
273	293	
		299
		299

Recreation
Religion
Sales Marketing
Scientific
Security
Shareware
Statistics
Utilities
Adult

MISCELLANEOUS

Accessories
Books/Catalogues
Business Opportunities
Consulting/Programming
Data Conversion Services
Data Recovery Services
Desktop Publishing Services
Diskette Copy Services
Insurance
Novelties
On-Line Services
Repair Services
Slide Imaging Services
Supplies
Training

PREMIER

CLASSIFIED

BUSINESS CARD

273		299
	293	299
	296	299
274	297	
273	296	
	296	299
	296	
	297	
		299
		299
274	297	299
	296	
	297	
	358	299

ACCOUNT REPRESENTATIVES

East Coast—CT, DC, DE, FL, GA, MA, MD, ME, NC, NH, NJ, NY, PA, RI, SC, VA, VT, WV

Ann Faustini 212-503-5043
Account Representative

Tom Koletas 212-503-5136
Account Manager

MidWest—AL, AR, AZ, IL, IN, KS, KY, LA, MI, MO, MS, NE, OH, OK, TN, TX, WI, CANADA, OVERSEAS

Larry Grella 212-503-5138
Account Representative

NorthWest—AK, CA (209, 408, 415, 510, 707, 916), ID, MN, MT, ND, OR, SD, WA, WY

Dennis Leavey 212-503-5111
Account Representative

Southwest—AZ, CA (213, 310, 619, 714, 805, 818), CO, HI, NM, NV, UT

Laura Salerno 212-503-5140
Account Representative

Chris Thomas 212-503-5131
Account Manager

CENTRAL ADVERTISING STAFF

Paul Stafford
Vice President,
Central Advertising

Paul A. Fusco
Director of Sales

Nepreil Foster
Advertising Coordinator

Vicki Egan
Production Manager

Andrea Arundell
Production Coordinator

AD SALES INFORMATION

MacUser Marketplace
One Park Avenue, Third Floor
New York, NY 10016
(212) 503-5115 or
(800) 825-4ADS

2X your SIMM capacity!

Double the SIMM capacity of your Mac II, Ix, Iicx, Ili, Ilii or Performa 600 with the **MicroMac SIMMdoubler II**

Benefits:

- Increase the memory of your Mac II, Ix, Iicx, Ili, Ilii and Performa 600 with 1MB or 4MB SIMMs
- Reuse existing SIMMs
- Use standard SIMMs. No need for PAL SIMMs on the Mac II or Ix
- Eliminates need for ROM upgrade on Mac II
- Upgrade your Mac II's memory in smaller, incremental steps
- Easy to install
- \$139 for a set of four SIMMdoublers

MicroMac Technology

Phone: 714.362.1000 Fax: 714.362.5428
27121 Aliso Creek Rd, Suite 125, Aliso Viejo, CA 92656-3364



Got lots of Mac IIs? Quantity pricing is available and we accept corporate, government and educational purchase orders.

MicroMac Technology

CIRCLE 171 ON READER SERVICE CARD

Portable Bar Code Readers



TimeWand® I DuraWand® TimeWand II

Data collection is fast, easy, and extremely accurate when using Videx portable bar code readers. Cordless operation, compact size, and light weight allow you to take the wands wherever the work needs to be done. Call Videx today for your free information kit: 503-758-0521. Prices starting at:



TimeWand I \$298
DuraWand \$495
TimeWand II \$698

1105 NE Circle Blvd., Corvallis, OR 97330-4285
503-758-0521 • FAX 503-752-5285

TimeWand, DuraWand, and Videx are registered trademarks of Videx, Inc. GCO355

SEE US AT COMDEX, BOOTH #L1497

CIRCLE 172 ON READER SERVICE CARD

PORTABLE

Battery, PS, & Charger all inside.

30 Series The worlds smallest self-contained, battery powered hard drive. Internal power supply, **No Power Bricks**, 4 hour batteries and charger (optional). 85, 120, & 250 MB available. Up to 500MB or unlimited storage with removable option.

50 Series



50 features: Internal battery and charger (1.5-3hrs) depending on drive. Alum. case. Internal power supply, weighs only 2.1 lbs. 50 pins SCSI-2 option.

70 Series



115 Series



1.8"x4"x7"

50 Series Includes:
• 85 to 1000MB Hard Drives,
• 105 MB 3.5" Syquest cart. drive,
• Removable 128 Mag-Optical

2"x5"x7"

70 Series Includes:
• 700 to 2.1 Gigabytes
• 2 to 16 Gbytes DAT
• 160 to 600MB Tape

1.7"x3"x5.3"

115 Series Includes:
• 128/256 MB Mag-Optical 3.5"
• 650 MB Mag-Optical 5.25"
• CD-ROM 200ms, Multi-session
• 150 MB remov. Bernoulli



"The Brick" Liberty does NOT USE this and our competitors won't show it in their ads.



(408) 983-1127
Fax (408) 243-2885
375A Saratoga Ave. San Jose, CA 95051

CIRCLE 173 ON READER SERVICE CARD

HARDWARE/ACCELERATOR BOARDS-INPUT DEVICES

If you were thinking of expanding your storage or adding a CD-ROM, you might want to give us a call.

We specialize in expansion housing, from one 3-1/2" portable, or one 5-1/4" Mac ZFP all the way up to seven 5-1/4" HH.



WX2866C-FH



WX28350C



WX28525

CALL US FOR A PORTFOLIO TO ORDER 800-75-WETEX 83839

WETEX INTERNATIONAL (USA) CORP.

1122 W. Washington Blvd., Suite D, Montebello, CA 90640
Tel: 213-728-3119, Fax: 213-728-3203

CIRCLE 174 ON READER SERVICE CARD

Turn Your Mac Into A Speed Dialer

Get the convenience and speed of automatic telephone dialing—right from your Macintosh—with new DeskTop Dialer™.

- Dials any number from within your Mac applications
- Supports 1- and 2-line analog systems
- Easy to install, easy to use.

With a suggested price of only \$75, DeskTop Dialer can make your Mac do the walking. Call (800) 827-4669 for the name of your dealer.

© 1992, Sophisticated Circuits, Inc. DeskTop Dialer and DialerDA are trademarks of Sophisticated Circuits. Macintosh is a registered trademark of Apple Computer, Inc.

DESKTOP Dialer

CIRCLE 175 ON READER SERVICE CARD

Bright color. Bright price.

\$2,599.

SPECIAL OFFER!



The BOXLIGHT 1285 ColorShow Projection Panel. Our brightest true-color panel. And for \$950 off the list price, it's an unbeatable value.

- ◆ Compact, easy-travel panel
- ◆ 640 x 480 resolution
- ◆ PC and Mac compatible
- ◆ FREE remote and cables

Your direct source for all the bright answers.

- ◆ Widest selection
- ◆ Instant availability
- ◆ Overnight shipping
- ◆ 30-day guarantee



BOXLIGHT®

17771 Fjord Dr. N.E., Poulsbo, WA 98370
206/779-7901 • Payment: Visa, MasterCard, American Express, COD and Purchase Orders (some restrictions). Leasing and rental options available. 30-Day Money-Back Guarantee.

Call Today 1-800-497-4007

CIRCLE 176 ON READER SERVICE CARD

Color Monitors • Scanners • Printers • Network • Hard Drives • Modems • Tape Drives



20" Trinitron

\$1,699

Color Monitors

20" Trinitron Monitor	1,699
20" Trinitron 8-Bit Package	1,899
20" Trinitron 24-Bit Package	2,549
20" MultiScan Monitor	999
20" MultiScan 8-Bit Package	1,199
20" MultiScan 24-Bit Package	1,749
16" MultiScan Monitor	699
16" MultiScan 8-Bit Package	899
14" MultiScan Monitor	349
14" MultiScan 8-Bit Package	499
GrayScale Monitors	
20" Sampo GrayScale Monitor	599
20" Sampo 256 GrayScale Package	799
20" Ikegami GrayScale Monitor	799
20" Ikegami 256 GrayScale Package	999

14" MultiSync Color Monitor

\$349

PaintBoard Li 24 - Bit Sale!

\$769

Case Kits \$79

Vista Case

The perfect choice for any drive. The Vista works anywhere in the world. 90-265 volts, has two 50-pin centronics connectors, and SCSI ID switch.

Case HH 79
Case FH 109

Sierra Case

Designed as a portable case for any 3.5" hard drive. Pick your power supply, 15Watt or 25Watt.

Case 60
Pwr Supply 15 w 110v/220v 29
Pwr Supply 25 w 90-260v 59

Quantum Hard Drives

3-1/2" ELS Low Profile	Internal	External
127 Meg. - ELS127, 17 ms.	199	259
170 Meg. - ELS170, 17 ms.	209	269
3-1/2" PDS, PRO & LPS Series		
240 Meg. - LPS240, 10 ms.	259	319
525 Meg. - LPS525, 10 ms.	639	699
1.0 Gig. - PD1050S, 11 ms.	949	1,009

Seagate Hard Drives

3-1/2" Hali Height - Barracuda	
2.1 Gig. - ST12550N, 8 ms.	1,709
5-1/4" Full Height - ELITE	
1.4 Gig. - ELITE-I, 11.5 ms.	1,699
2.1 Gig. - ELITE-II, 11 ms.	2,099
3.5 Gig. - ELITE-III, 11 ms.	2,399

128 Meg. Optical

Fast 30ms. access time, comes complete with one cartridge, cable, terminator, and software.

\$799

6-Changer Quadruple Speed CDRom Player

\$799

PIONEER

Each compact, easy-loading magazine holds up to 6 different discs. Includes SCSI cable, Terminator, Mac & IBM software, 6-CD Caddy, and sample CD-ROM.

New - DRAM 604X - 4 times the transfer rate - 600K/Sec.

3 Gig. DRAM-600A 799
3 Gig. DRAM 604X 1,299
6 CD - Caddies 29

Stereo Speakers with Amp

\$25

Hi fidelity sound puts life into your computer. Separate volume, treble and bass controls.

Uses 4 "C" size batteries or optional AC power supply.

Tactile Click Keyboard

\$99

Extended Tactile-Click lets you know when the keys have been depressed all the way.

Supra 14,400 Fax Modem

Our most popular Fax/Modem from Supra. The model is their top-of-the-line unit with all software and cables included.

\$259

Diagnostic Active Terminator SCSIVue™ Terminator

\$59

Granite

D-I-G-I-T-A-L

Diagnostic SCSI Cables SCSIVue™ Gold Cables

\$39

Features:

- Diagnostic Indicators
- Triple Shielding
- Double Gold 20u" Plated Connectors
- Extra Heavy 26 Gauge Wire

Benefits:

- No Loss Of Important Data
- Faster Performance, Less Errors
- Saves Time And Energy
- Test Cable Integrity
- Lifetime Warranty

3' Apple 25 to Centronics 50 39
6' Apple 25 to Centronics 50 59
3' Centronics 50 to Centronics 50 69
6' Centronics 50 to Centronics 50 79

RELAX

TECHNOLOGY

3101 Whipple Rd.
Union City, Ca. 94587
Call 510-471-6112

• **Quality and Selection.** We offer a wider choice of award winning products. More choices makes for wiser selections.

• **Cost Savings.** We save you money on the products you want, and we'll be there to service you tomorrow.

• **Service and Security.** Since 1978 Relax's commitment to customer satisfaction, has meant quality products and service. Winner of MacWorld Magazine's Service Hero Award, our sales and service team

treats service very seriously.

• **Knowledgeable Sales Staff.** We take pride in our courteous and knowledgeable sales staff. Each sales person is also a product manager, so expert technical assistance isn't far away.

If you need help, our Express Service Program (ESP) will have you up and running in 48 hours.. guaranteed!

CALL FOR FREE COLOR CATALOG

CIRCLE 177 ON READER SERVICE CARD

BookEndz, The PowerBook Docking Station



- Eliminates Cable Confusion
- Works with all rear panel ports
- Power supply ext. cable available
- Attach/detach in 2-3 seconds
- Mastercard, VISA, Amex accepted
- BE147 for PB-140/145/145b/170 \$129
- BE168 for PB-160/165c/180/180e \$129
- NEW! BE148 for PB-140 thru 180e\$144
- Uses your connectors
- Matches your PowerBook
- Includes switch extensions
- Assembles in minutes
- 1 year warranty
- Pre-installation available
- Custom cables available
- Dealer inquiries welcome

Pilot Technologies, Inc.

10025 Valley View Road, #130, Eden Prairie, MN 55344
Phone 800-682-4987 or 612-828-6002 FAX 612-828-6806

CIRCLE 178 ON READER SERVICE CARD

POWERBAG™
THE ONLY BAG FOR YOUR POWERBOOK

- WORK RIGHT OUT OF YOUR BAG
- ERGONOMICALLY ENHANCED DESIGN
- COMPACT • LIGHTWEIGHT • STURDY
- COMPARTMENT FOR AC ADAPTER, etc...
- PEN & DISKETTE POCKETS
- TWO YEAR REPLACEMENT WARRANTY
- CHOICE OF BLUE OR BLACK POWERBAG™



PLEASE CALL 1-800-222-2094

DEALER
INQUIRIES
WELCOMEPOWERBAG™
INTERNATIONALWe Accept
VISA &
MASTERCARD

TEL • 310-337-7103 • FAX • 310-337-7104 • 9100 S. SEPULVEDA BL. SUITE 125 L.A. CA. 90045

CIRCLE 179 ON READER SERVICE CARD

COST-EFFECTIVE FULL
COLOR ARRIVES!

MacUser Marketplace Premier makes the power and panache of 4-color display advertising truly affordable. Let Premier launch your company to the "big time"—Over 444,161 primary readers every month!

Source: ABC, June 1993

MacUser Premier
800-825-4237

MacUser
MARKETPLACE

BTI Batteries and Chargers for PowerBooks

Everything you need to enhance the power in your PowerBook.

for all Macintosh PowerBooks (except 100 & Duos)

MC-SC100 PowerChargerPlus \$149.95

- Fast charging - Fully charge in approx 1.5 hrs.
- CMOS charging control • Battery conditioning
- Works with Apple AC power supply
- Comes with AC adapter and Auto lighter adapter

MC-180 Power Gage Battery \$89.95

- Long life • Built in LED charge indicator
- Integrated quick lock cover • Gold plated terminals

MC-AP100 Auto Power adapter \$99.95

- Powers PowerBook from auto lighter socket
- Optionally supplies power to PowerCharger simultaneously

Not shown: • MC-170 PowerBook battery \$69.95

• MC-CHR PowerCharger \$129.95

• MC-KIT Starter Kit - includes PowerCharger and MC-170 battery \$149.95



Dealers: BTI products available through Ingram Micro

BTI

BATTERY TECHNOLOGY, INC.

To Order: Call Toll Free 800.982.8284

5700 Bandini Blvd., Commerce, CA 90040 Tel: (213)728 7874 Fax: (213)728 7996

CIRCLE 180 ON READER SERVICE CARD

We Connect Any Printer!

Well, Almost! Our Grappler Series connect over 1000 kinds of Non-Apple printers to any Macintosh that's ever been made. We're the experts, with over 13 years in the printer interface business. 9-Pin, 24-Pin, Bubblejets, and Laserjets. Call us, we want to help.



Orange Micro Inc.
"10 Years of Innovation and Excellence"
1400 N. Lakeside Ave., Anaheim CA 92807
(714) 779-2772

CIRCLE 181 ON READER SERVICE CARD

Protect Your Bottom Line

Complete Systems Start at

\$2599

Retailers need now more than ever, the ability to react to consumer buying trends to protect their bottom lines. Tracking past performances, shrinkage, fast moving items, and customer histories is no child's play for the retailer of the Nineties. POS•IM is the tool you need to protect that bottom line.

POS•IM

Point of Sale • Inventory Management
Ensign Systems, Inc.
(801) 546-1616



The One That Apple® Uses

CIRCLE 183 ON READER SERVICE CARD

TAKE CONTROL OF YOUR BUSINESS!

The Leader in Merchant Business Software

POS & ORDER ENTRY SOLUTIONS

for Retail, Mail Order, Wholesale Companies

- Credit Card Processing & Barcoding
- Quick setup with excellent support
- Single/Multi-User and Multi-Site
- Increase productivity, maximize profits
- Expands to grow with your business

DEMO Available

(508) 653-6911 • Fax: (508) 650-1872

E.E.S. Companies, Inc., 2 Vernon St., Suite 404, Framingham, MA 01701

CIRCLE 182 ON READER SERVICE CARD

Mac Cocktail

New CD-ROM Title
\$59.95

Use your Macintosh as your bartending assistant. With MacCocktail™ you can find over 200 nightclub recipes quickly and easily.

- Nightclub drinks
- Blended drinks
- Tropical drinks
- After dinner drinks
- and more!



- Quicktime™ movies
- Party themes
- Recipes show proper glass & garnish
- Bundled w/ shot jigger

REQUIREMENTS: 4meg RAM, Color, CD-ROM Drive & System 7 or later

BLACKFIRE 1-800-556-7207
(310) 798-0202

CIRCLE 184 ON READER SERVICE CARD

MacBreadboard
Digital Electronics Trainer
\$59.95 + \$3 S&H

Version 1.1
Available for Mac and Windows™

MacBreadboard Features:

- Realistic Interface
- Color or B&W
- 78 TTL Chips
- Chip Schematics
- Timing Diagrams
- 7-Segment displays
- Dip Switches
- LEDs and a Buzzer
- Logic Probe
- Multifunction Clock
- Online Help

Recommended for:
Educators, Students
and Home Hobbyists.

YOEIC Software
256 Windy Ridge Rd.
Chapel Hill, NC 27514
Phone/FAX: (919) 542-0071

Minimal Configuration:
512K and System 4.1

CIRCLE 185 ON READER SERVICE CARD

POSTERS MURALS BILLBOARDS BACKDROPS TRADESHOW EXHIBITS

LAYOUTS UP TO 10,000 SQ. FEET
TRY POSTERWORKS ON FOR SIZE!

Quickly import, resize and crop your page layouts, images and illustrations — on a huge pasteboard.

PosterWorks™ will drive your PostScript printer, giving you variable file sizes, gap between files, overlaps, and hundreds of professional large-format production tools.

And, by sending layouts at final size to one of our large-format service bureaus, you will have affordable access to the latest color printers and colossal sheets. Full color. Laminated. Big.

For more info:
(617) 338-2222 (617) 338-2223 fax
Now at MacWarehouse! 1-800-255-6227

PosterWorks

©1993 S. H. Peters & Co.
Suite 223 Building 400, One Kendall Square, Cambridge, MA 02139 USA

CIRCLE 188 ON READER SERVICE CARD

Subject Dictionaries for Maximum Accuracy

POWER TRANSLATOR™
Professional

Now Your Computer Can
Speak Business
in 5 Languages

Full Sentence Accuracy ♦ Word Processor Compatible
Multi-User ♦ Multiple Platform Options

Your competitive edge in the new international marketplace.
Talk to your software supplier or call Globalink direct:

1-800-767-0035

Globalink™
9302 Lee Highway Fairfax, VA 22031
Phone: (703) 273-5600
Fax: (703) 273-3866

French
Spanish
German
Russian
English

OS/2
MacOs
UNIX
PC/MS Dos

CIRCLE 186 ON READER SERVICE CARD

SOMETHING FOR EVERYONE!

SONGWORKS
Notates your tune, suggests chords & melody ideas, plays, transposes, prints. \$125.00

PRACTICA MUSICA
Ear training and music theory instruction from beginning to advanced. \$125.00

Both programs compatible with MIDI (but MIDI is not required.)

ARS NOVA • 1-800-445-4866 • Box 637 • KIRKLAND, WA 98083

CIRCLE 189 ON READER SERVICE CARD

COMPLETE BIBLE BOOKSTORE ON DISK!

JUST DIAL
1-800-423-1228
FOR YOUR
Free Catalog!

BIBLE RESEARCH SYSTEMS
2013 WELLS BRANCH PKWY. # 304 • AUSTIN, TEXAS 78728

CIRCLE 190 ON READER SERVICE CARD

NOW YOU CAN HAVE YOUR SOUND, AND SEE IT TOO.

Learn To Speak Spanish 4.0
It's a whole new era.

HyperGlott has the most extensive line of foreign language products for the MAC in these languages: Spanish, French, German & Italian. Ask about a competitive upgrade to Learn To Speak Spanish 4.0!

1-800-290-4568

HyperGlott™ the foreign language software company.

CIRCLE 187 ON READER SERVICE CARD

NEW

Killer Mouse Pads!

Set yourself apart. Impress those office wimps with your Shark or T-Rex! Great for gifts, too. \$11.95 (2 for \$20)

Visa, MC, Am. Exp. Satisfaction Guaranteed. Add \$4.00 shipping. CA res. add 7.75% sales tax.

800-521-8484 Ext. 117

Computer
9520 Padgett St., #102
San Diego, CA 92126
Fax (619) 271-9291

CIRCLE 191 ON READER SERVICE CARD

The Economical Inkjet Printer Refill from DGR



JetInc. is the most economical way to refill your ink jet printers. It provides over 50% savings, while also using recycled materials that are environmentally conscious. DGR now has refills for all of the ink jet series printers for both the IBM & Macintosh.

2Pack Black	\$15.99
High Capacity Black	\$19.99
2Pack Color	\$22.99
High Capacity Color	\$24.99
DeskWriter 550C (6)	\$39.99

Colors Available:
Black, Blue, Red, Green

plus shipping & handling
other printer prices vary.



1-800-235-9748

1219 West Sixth Street Austin, Texas 78703 512/476-9855 512/476-6399

CIRCLE 192 ON READER SERVICE CARD

Get on the Internet!

5 Hours
FREE!

DELPHI is now connected to the Internet! With over 10 million users, the Internet is the fastest growing and most talked about online resource in the world.

Here's How:

Dial by modem

1-800-365-4636

When Connected

press RETURN

At Password,

type MCU3X4

Questions? 1-800-695-4005

- YOURNAME@delphi.com — use DELPHI's real-time e-mail connection to send messages or subscribe to mailing lists.
- Telnet — connect to colleges, companies, and other networks.
- FTP — transfer files immediately from other hosts.



CIRCLE 193 ON READER SERVICE CARD

QuickTime Movies & Photos on CD ROM.

ErotiCafé More movies More photos More fun

#300 Mac CD ROM	\$129.00
#301 PC CD ROM	\$129.00
#302 Mac 3-floppy set	\$29.95
#303 PC 3-floppy set	\$29.95

Bare Assets Florida's sexiest women

#100 Mac CD ROM	\$99.00
#101 PC CD ROM	\$99.00
#102 Mac 3-floppy set	\$29.95
#103 PC 3-floppy set	\$29.95

Glamour Girls of 1943 Nostalgic Nudes

#200 Mac CD ROM	\$64.95
#201 PC CD ROM	\$64.95
#202 Mac 3-floppy set	\$29.95
#203 PC 3-floppy set	\$29.95

CD ROMs contain Interactive Movies & Photos. QuickTime and viewing programs are included.

IBM/PCs require: 386, DOS 5.0, Windows 3.1, 4 Mb RAM, VGA graphics, & optional sound card.
Macs require: LC or higher, 4Mb RAM, color monitor.
Floppy Sets contain sample photos only.

(800) 940-2040 - orders

(407) 242-2040 - inquiries (407) 242-8682 - FAX

Visa/MC - Dealer Inquiries Welcome - ADULTS ONLY

Space Coast Software - 3128 Lake Washington Rd #244, Melbourne, FL 32934 USA

CIRCLE 196 ON READER SERVICE CARD

CAPITAL SINS



Washington's Hottest Scandals on CDROM
Exotic Dancers Bare All On Quicktime 1.6!!

1-800-835-2246 Ext.63 Only \$99



CIRCLE 194 ON READER SERVICE CARD

SCISSORS & STONES

A VIRTUAL EXPERIENCE ON CD-ROM



Step inside the depths of an erotic arena inhabited by beautiful women.

- Realistic 3D Walkthroughs
- Full first person point of view
- Full motion video sequences
- Addictive gameplay

Comdex Fall
'93 Booth
#A1899

"What are you getting for Xmas?"

PIXIS 800-697-4947

TEL 714 665 1010 PU Box 3694 TUSTIN CA 92680-3694

CIRCLE 197 ON READER SERVICE CARD

ADULT SOFTWARE



Desktop Voyeur
You're a peeping-tom spying on the voluptuous Nikki. Follow her to the bed room for a very private fantasy.

2-425, \$59.95

FREE color catalog w/purchase or send \$2.00 to:
BodyCello

P.O. Box 910531 • Serrano Valley, CA 92191

ORDER NOW 1-800-922-3556 1-619-578-6969 FAX: 1-619-536-2397

Mixt 21 or older to order • Dealer Inquiries Welcome

CIRCLE 195 ON READER SERVICE CARD

PHOTOS: CD-ROM

2-424 Girls with Girls - 200 photos	79.95
2-415 OverExposed - 200 photos	79.95
2-101 Heavenly Bodies V.3 - 200 photos	79.95

INTERACTIVE: CD-ROM

2-419 NightWatch Interactive	59.95
2-422 Adventures of Seymore Butts	59.95
2-418 Fox Pack - adult games	59.95
2-426 Desktop Mistress	49.95

DISK: INTERACTIVE

2-26 Strip Poker/Blackjack	39.95
2-25 MacFoxes - adult fun	29.95

DISK: PHOTOS & ART SETS

25 images in 8-bit color(24-bit color place "B" after part #). Picture viewer included.	
2-10 Model Sampler - nude photos	29.95
2-19 Boris Vallejo - fantasy art	29.95

FREE ADULT CD-ROM SAMPLER!!

...try before you buy.

Provocative Demos from the Best Selling Adult CDs

House of Dreams, NightWatch Interactive, Secrets, InterActive Adventures of Seymore Butts, Chameleons, Dream Machine ...

800.882.6959
dealer inquiries 310.453.5068



ADULT MOVIE ALMANAC **Seymore Butts**

new MACHINE PUBLISHING

CIRCLE 198 ON READER SERVICE CARD

UPGRADE YOUR MAC & SAVE



Double Your SIMM Capacity

\$ 139!
per set of four SIMMdoubler boards

DOUBLE THE SIMM CAPACITY OF YOUR MAC II, IIx, IIcx, IIci, IIsi, IIvx OR PERFORMA 600 WITH THE MicroMac SIMMdoubler II

- **Increase your memory up to 64MB**
Works with standard 1MB or 4MB SIMMs.
- **Reuse existing SIMMs**
The SIMMdoubler adds additional SIMM slots, so you can use all the memory you currently have.
- **Use standard SIMMs**
The circuitry on the SIMMdoubler eliminates the need for special PAL SIMMs for the Mac II and IIx.
- **Costly ROM exchange not required**
Owners of the Mac II no longer need a ROM exchange to go beyond 8MB of memory.
- **Customize your memory configuration**
The SIMMdoubler allows you to build 1.5MB, 2MB, 4MB, 5MB and 8MB SIMMs by combining 512KB, 1MB and 4MB SIMMs in various configurations.
- **Easy 10-minute installation**



Each SIMMdoubler II board plugs into one SIMM socket of your Mac logic board and provides two SIMM sockets. This effectively doubles your SIMM capacity and is the most cost-effective solution to add to your existing memory.

ACCELERATION PRODUCTS

- For the Plus, SE or Classic
- Up to 830% performance increase
- Fully compatible with System 6 and System 7
- Four SIMM slots for 32-bit memory expansion
- Up to 16MB of physical or Virtual memory with optional Connectix Virtual 3.0.2 software
- 68882 Math co-processor socket



25MHz 68030 \$298!

25MHz MicroMac MultiSpeed '030.....\$298
32MHz MicroMac MultiSpeed '030.....\$398
Plus/Classic Adapter.....\$40
1MB SIMMs 60ns.....Call
4MB SIMMs 60ns.....Call
Compact Virtual 3.0.2.....\$80
25MHz/32MHz 68882 FPU.....\$75/\$125

50MHz 68030 \$599!

DiiMOCache 50MHz '030 Accelerator is the fastest '030 accelerator. Period.

- Performance increase up to 400%
- For the II, IIx, IIcx, IIci, IIsi, IIvx, IIvi, SE/30 and Performa 600
- 64K static RAM cache
- Adapter card required for SE/30, II, IIx, IIcx, IIsi



DiiMOCache 50MHz '030.....\$599
with FPU.....\$699
Adapter.....\$69
DiiMOCache 128K Cache Card for IIsi, IIci, LCIII and Performa 450
50% Performance increase.....from \$119
with FPU.....\$229

VIDEO



- MicroMac Technology
- 15" Greyscale FPD for IIsi, IIci, LCIII, P600, Centris\$379
 - 15" Monochrome FPD with video card for PLUS, SE, SE/30, NuBus.....\$449
 - Mac2VGA cable\$20
 - Multi-Resolution Mac2VGA cable\$35
 - to connect multi-frequency SVGA monitors to on-board video of Quadras, Centris and LCIII
 - TriAm** 15" full page color monitor.....\$777
 - Relisys VividView** 14" Hitachi tube, 0.28mm dot pitch.....\$329



HARDWARE

- ADB Extended Keyboard 105 keys.....\$97
- ADB Mouse\$69
- Applied Engineering HD Plus Floppy** External high density FD for Mac Plus, SE, II\$299

MacUpgrade Specialists

27121 Aliso Creek Rd., Suite 125
Aliso Viejo, CA 92656-3364
Tel: 714.362.5429 • Fax: 714.362.5428

International Orders and
Corporate POs Welcome

Memory Prices Are
Subject to Change

800 266 3622

COMPUTER SYSTEMS

LATEST

Mac
S · A · L · E
INTERNATIONAL

SPECIALS

HUGE INVENTORY-LOW PRICES!

(Apple CPU's, Parts, & Peripherals) - CALL! (for latest pricing and availability)

NEW

POWERBOOK 160

25-MHZ 68030, GRAYSCALE DISPLAY
4/80 - \$1,299.00*
4/120 - \$1,399.00*

POWERBOOK 165c

33-MHZ 68030, **COLOR** DISPLAY
4/80 - \$1,399.00*
4/120 - \$1,499.00*

*INCLUDES FREE POWERBOOK CARRYING CASE AND
OVER \$600.00 OF MANUFACTURERS SUGGESTED RETAIL PRICE SOFTWARE!!

SPECIAL Order a PowerBook 160 OR 165c and one of the two listed
printers below, and get \$100.00 off the PowerBook!!

NEW

APPLE COLOR PRINTER - \$995.00

Plain Paper 360 dpi INKJET (W/ACCESSORY KIT) Supports: Letter, Legal 11 X 17, A4 and A3.

FACTORY REFURB

QMS PS-410 - \$699.00

Like NEW, 300 dpi Postscript, Mac+IBM autoswitch, Factory Sealed/wrnty, (List \$1,995)

NEW

CPU's

Ilvix 4/0 - \$1,099.00
Mac Classic II 2/40 - \$749.00
Mac LC 2/40 - \$599.00
Quadra 700 4/230 - \$2,299.00
Quadra 900 4/0 - \$2,499.00
*Call for Latest Pricing on
ALL Other Models!!

Printer's

Personal LW NT - \$799.00
Personal LW LS - \$549.00
Apple One Scanner - \$629.00

SPECIALS

Mac II 1/0 - \$429.00

Mac IICx 1/0 - \$599.00

NEW EMAC DAT Drive - \$749.00

New Mac Ilvix 4/230 - \$1,399.00

New Mac IIsi 5/160 - \$849.00

New Connor 543MB 3.5" Internal HD - \$549.00

USED

CPU's

Mac Plus - \$259.00
Mac SE 1/20 (800K) - \$399.00
Mac SE/30 1/0 \$749.00
Mac IICx 4/80 - \$869.00
Portable 2/40 - \$649.00
Quadra 900 - \$2,299.00
PowerBook 170 4/40 - \$1,699.00
Duo 210 & 230 - Call for Pricing

Monitor/Video

Apple One Scanner - \$549.00

Printers

Personal LW NT - \$699.00
Personal LW LS - \$429.00
Laser IInt - \$895.00
Laser IIntx - \$1,095.00

EMAC 24/96 Data/Fax (send+
receive) Pocket Modem - \$69.00
Hayes 2400B Int. - \$25.00

Syquest Carts - \$62.00
Apple Personal LW Cassette
Base - \$79.00

1-800-729-7031

Prices represent "2% Cash Discount" - off Full Price.

Returns at discretion of Mgmt./15% Restocking fee.

WE WANT TO BUY YOUR NEW/USED MAC EQUIPMENT



Computer Design & Graphic Systems™

Specialists in Graphic System Configurations

CDG CUSTOMERS...

THANK YOU!

#1 Supplier to the Graphics Industry

FREE SHIPPING!...
call for details

APPLE CPU'S

CALL FOR UPDATED PRICING
Macintosh 660 AV 8/230 \$2149
MAC LC IV 4/80 CALL
Powerbook 165c or 180c CALL
Quadra 840 AV 8/230 \$3399
Centris 660 AV 8/230 CD \$2449
Quadra 800 8/230 \$2800
Quadra 840 AV 8/500 CD CALL
Quadra 840 AV 16/500 CALL
Quadra 950 8/No HD \$3299
PowerBook 145S, 165, 180 CALL
NEW MACS ARE IN !!!

IBM

IBM 486SX/25 \$1239
IBM ThinkPad 350 \$2050
IBM ThinkPad 750 \$3289
NoteStar 386 notebook \$1200
NoteStar 486DX33 color NB \$2489
Digital 386SX/16 8/212 \$529
Minotower 486SX/25 \$1129
Desktop 486SX/25 \$1079
Minotower 486DX2/66 \$1669
CALL FOR MORE !!!



MONITORS



Apple 14" RGB \$519
Magnavox 2080 14" Color \$389
NEC 3FGE \$629
Sony 1730S 17" Color \$1079
Sony 20" Trinitron \$2199
SuperMac 17T \$1089
SuperMac 20" Color \$1649
SuperMac 21" Color \$2399
SuperMac 20T XL \$2559
RasterOps 20/20 Color \$1549
RasterOps 20" Trinitron \$2299
Radius 20" Precision 20 \$2349
Full Page Gray Scale \$399



PRINTERS

GCC BLP Elite \$749
GCC Eclipse \$899
GCC Colorstone dye-sub \$6399
NEW Primera Color Thermal \$899
NewGen 1200B 11x17 \$4489
HP Laserjet 4m (600 dpi) \$1899
HP Laserjet 4ml \$1049
QMS 860 11x17 600dpi \$3899
New QMS 420 600x600 \$1599
NEC Silentwriter 95 or 97 CALL
Dataproducts 1580 \$3099
All dye sub printers now available



DISPLAY CARDS

SuperMac 8 • 24 PQD \$799
SuperMac Spectrum 24-IV \$789
SuperMac Thunder II \$3099
Radius PrecColor 24xx \$799
Radius 24xp \$509
Radius 24x (\$100 rebate) \$1449
RasterOps Paintboard LI \$799
RasterOps ProColor 32 \$2849
RasterOps Paintboard Turbo \$1079
RasterOps MoviePak \$749
Lapis 8-16 Color Card \$369
Lapis Mac to TV card adapter CALL
E-Machines Futura SX 24 bit \$489
E-Mach Futura MX 24 bit \$769



650 Optical Media \$99
128 Optical Media Special \$40
Apple 80 meg HD \$100
Toshiba 213 PB/HD \$549
CD-ROM drives/titles In Stock
PLI 128 Optical drive \$1299
Pinnacle Tahoe 128 Optical \$929
Seagate Baracuda II 2.4 gig \$2399
Quantum 240S int. \$279

SCANNERS



HIGH END SCANNERS CALL
UMAX UC840 (800 dpi) \$1299
UMAX UC630 w/L \$899
UMAX true 1200 dpi \$1799
UMAX 1200SE \$2999
Microtek Scanmaker II \$879
Sharp JX-325 \$899



Quantum 1 gig. int. \$899
Hammer FMris 3.5" 1 gig \$1399
Fujitsu 520 meg 3.5" int. \$599
Fujitsu 1.2 gig \$999
Micronet 1030R Array \$2089
Syquest 88/44 \$499
Simm Chips \$999
PLI Array Drives Call
MUCH MUCH MORE !!!

LOWEST Prices on GRAPHIC Software! OVER 20,700 products for the serious... GRAPHIC User!

Network Products

DAYNA • ASANTE • SONIC • NOVELL
Ethernet is better than Sneaker-Net.
Call one of our network specialists
for your complete network solutions.
New Asante Lite card \$139
Dayna Etherprint-T \$339
Sonic Laserbridge software \$149
Asante 8 port 10baseT hub \$239
We Do Make Housecalls

Midrange Package

Centris 660 AV 8/230
Eight meg RAM upgrade
Apple Extended Keyboard
Sony 1730S 17" Color monitor
H/P Laserjet 4M / 600 dpi LaserPrinter
8-pin DIN printer cable 6 foot
UMAX UC840 Scanner w/Photoshop
Radius PrecisionColor 24xp Card
\$7,599 / 36 Mo. Lease \$292.58

High End Package

Mac Quadra 950 8/1.2 Gig HD
Quadra 950 sixteen meg upgrade
Apple Extended Keyboard
SuperMac 20T XL color monitor
NEW GEN 1200B 11 X 17, LaserPrinter
8-pin DIN printer cable 6 foot
UMAX UC1200SEMAC Color Scanner
SuperMac Thunder II Video Card
\$18,515 / 36 Mo. Lease \$699.95

Multimedia Package

Substitutions Available on All Packages
Mac Quadra 840 AV 8 RAM/cdrom
Fujitsu 1.2 Gig internal Hard Drive
64 meg RAM upgrade
Apple Extended Keyboard
Apple Audiovision 14" Color Display
Rasterops Editing Aces Suite (NTSC)
\$11,515 / 36 Mo. Lease \$443.90

Leasing available to approved credit; \$2,000 minimum lease amount. One day approval; one page short-form application.
Lease prices based on 36 month; 10% purchase option. No minimum time in business; 48 month leases available.

NOW SUPPORTING IBM / PC PRODUCTS

Multimedia PC System

486DX/33 Tower 4/212
Sony CD ROM w/speakers
Sound card, Dual disk drives
Internal Fax/Modem w/WinFax Lite
14" 28 Ni Monitor
DOS 6.0, Windows 3.1, Mouse
Prodigy, Quicken,
PFS Window Works **\$1995**

Printers & More

IBM/Lexmark 5E \$999
IBM laserprinter 10 \$1175
IBM laserprinter IOP \$1879
IBM PPS 2391 24 pin \$469
HP 4 laserjet \$1489
Compaq Pagemark 15 \$2599
NEC SilentWriter II \$949
Panasonic KXP 2123 \$259

Monitors, Misc. & More

NEC 4FGE \$770
NEC 6FG \$2489
Sony 1430 \$599
IBM PS/2 14" \$485
GoldStar 1460 \$267
WinStorm CD ROM Kit \$899
Viva Maestro 16 VR \$249
Viva 14.4 int. Fax/Modem \$215

WE GET IT RIGHT THE FIRST TIME!

The CDG Service Commitment

- ▼ Toll Free Customer Service Line
- ▼ Highly Trained Sales Personnel
- ▼ Factory Fresh Products with Manufacturer's & CDG Warranty
- ▼ Expert Technical Support Staff
- ▼ Prompt Delivery of All in Stock Items
- ▼ 30 Day Premium Guarantee*
- ▼ Lowest price Commitment

* CDG Systems Warrants that all products will perform satisfactorily or we will repair or replace (at our option) during the first 30 days after delivery. (This is addition to the regular manufacturers warranty). All customers must call our Customer Service Department and obtain a Return Merchandise Authorization number (RMA) before returning any items. All returned items are subject to a 20% restocking fee, inspection and must be returned in "new" condition with all original packing including any instructions, cables, software etc. Not responsible for incompatibility. Sorry no COD returns.



Prices reflect cash discount. All prices subject to change.
\$25 Charge on all cancelled orders. C.O.D. order refused without
cancellation prior to shipping will be billed full shipping charges.

6225 Presidential Court, Suite F • Fort Myers, Florida 33919

LOCAL: 813-489-4338 • SUPPORT: 800-741-6221 • FAX: 813-489-4694

COMPUTER SYSTEMS

Try Us FREE 800 858 4MAC Special

About Gulf Tech...

- International Consultants Dealers
- 7 Yrs in Business
- Member of BBB
- High Inventory
- Volume Purchasing
- Full 1 Yr Warranty

Tel 818.785.2800
Fax 818.785.3100
1.800.858.4622
Gulf Technology

MacLink

Professional team for:
-Desktop Publishers
-Video and Audio Pros
-Multimedia Authors
to answer your calls

Quadrax **Centris** **MacIIx** **Duo**

LCIII **PowerBook** **Monitors** **Printers**

Upgrades **Storage** **Accessories** **Video**

CD-ROM
Lots of Titles
Call for Free Catalog

CIRCLE 232 ON READER SERVICE CARD

MACMANIA

MACINTOSH CPU'S

Color Classic 4/80	\$1085
LC III 4/80	\$1208
LC475 4/80	\$ Call
Quadra 605 4/80	\$ Call
Quadra 610 8/80 w/Ethernet	\$ Call
Quadra 650 8/230 w/Ethernet	\$ Call
Quadra 660 av/8/230 w/CD	\$2427
Quadra 800 8/230	\$3076
Quadra 840 av 8/230 w/CD	\$3590
Quadra 950 8/0	\$3247
PowerBook 145B 4/40	\$1299
PowerBook 165 4/80	\$1786
PowerBook 165C 4/80	\$1749
PowerBook 180 4/80	\$2385
PowerBook 180C 4/80	\$3004
DUO 230 4/80	\$1575
DUO 250 4/80	\$ Call
DUO 270c 4/80	\$ Call
Newton Communication System	\$824

PERIPHERALS

Magnavox Pro 14" Color	\$350
ViewSonic V15 FS Color	\$525
SuperMac 17" Color	\$1033
RasterOps 20/20 Color	\$1565
LaserWriter Pro 630	\$2260
LaserWriter Select 310	\$973
LaserWriter Select 360	\$ Call
GCC PLPII 4ppm	\$616
DEC Laser 1152	\$822
Umax 840 Color Scanner	\$1224
HP LaserJet 4M	\$1908

Prices change frequently. Call for latest pricing.
We carry over 15,000 Products. All merchandise is new. 30 day Money Back Guarantee.
Open M-F 10 - 7 EST.

SALES 800-742-1150
407-678-6130 Fax

CIRCLE 235 ON READER SERVICE CARD

More than three quarters of MacUser subscribers will purchase Macintosh products through mail order in the next 12 months; 85% of these will be purchasing software.

Will they buy from you?

Only if you advertise in MacUser Marketplace. Call your account representative at 800-825-4237 today!

Source: MacUser Mail Order Report, 1991

BEHIND EVERY MAC THERE'S A MARTY.

MARTY'S MAC-MARTSM 1-800-262-6227
GREAT PRICES AND MARTY, TOO.

CIRCLE 233 ON READER SERVICE CARD

MacAttack

(800) 299-MACS
409.690.0347 409.693.5756 fax

We Attack High Prices!!

Prices subject to change — please call for latest pricing. We carry hundreds of items — call for availability. Your satisfaction is our goal. Prices are C.O.D. and subject to change. International Orders and Fax Orders Welcome!

New Macs!!	Powerbooks!!	Memory
Color Classic	PB 145B 4/40	51MM5
LC III 4/80	PB 145B 4/80	PB Memory
LC III 4/160	PB 165 4/80	Duo Memory
Ilv 5/80/CD	PB 165 4/160	Math Coproc.
Cent 610 4/80	PB 180c 4/80	Other memory
Cent 650 8/230	PB 180c 4/160	
Cent 660av 8/230/CD	PB 180c 4/160mod	
Cent 660av 8/500/CD	Duo 210 4/80	
Q800 8/230	Duo 230 4/120mod	
Q840av 8/230/CD		
Q840av 8/16/CD		
Q950 8/0		
One Year Warranty on new Macs!		
Sell only Apple original Serial numbers.		

Scanners	Modems
Color One Scanner	Supra Fax Modem
Scannmaker II XE	Powerport Gold
AFGA	

Monitors	Printers	Keyboards
Apple Basic 14"	Stylewriter II	Keyboard II
Apple 14"	LW Select 300	Ext Keyboard II
Apple 16"	LW Select 310	Adj. Keyboard
Sony 1320 14"	LW Pro 600 8m	
Sony 1430 14"	LW Pro 630	
Sony 1730 17"		
SuperMac 17T		
Thunder/24		
Thunder II Light		
NEC 3FGE		
NEC 4FGE		
NEC 5FG		

Other Stuff	Syquest
Turbo Mouse	External w/cart
Apple CD 300	SQ555 44mb
Newton	SQ5110c 44/88mb
	SQ31055 105mb
	44 Cart
	88 Meg Cart
	105 Meg Cart

Wow! 1/2 Gig Seagate - Only \$799/879!

We have Int'l Keyboards!
We ship Airborne Express. International shipments handled by DHL.
COD and Mastercard / VISA accepted.

CIRCLE 234 ON READER SERVICE CARD

Macintosh Systems & Parts

PUBLISHING SYSTEMS

- Agfa, Howtek, Leaf, Oce, Sharp, Sony, Truevision
- Howtek D4000 Drum Scanner
- Agfa ProColor Premier

CPU'S

- Quadras (950, 900, 700)
- Macintosh IIx, IIx, II
- Mac IIci, IIcx, IIx, LC
- PowerBooks, Centris

CARDS

- Apple 824 GC
- RasterOps 708+ 8 bit for 19"
- RasterOps 24x48
- RasterOps 245TV
- Radius DirectColor 24 Bit Accel
- Novell Etherports SE/SE 30
- Shiva Ether 50
- DCA Mac Irma 3270
- Apple Token Talk Card
- Apple Serial NuBus Card
- Apple IIci NuBus Adapter
- Apple IIci Cache

DRIVES

- 40 MB Internal SCSI
- Wen 330 MB Internal SCSI
- Maxtor 800 MB WORM

INPUT

- HP Scan Jet
- Apple Scanner
- Abaton 300/FD
- Microtek 400G

MONITORS

- Sony 19" Industrial Grade Trinitron
- Mitsubishi 16" Color
- E-Machines ColorPage 15" w/ 8 Bit Card
- Apple 12" Monochrome

PRINTERS

- Xerox 600x600dpi Laser Printer
- Dume Script 10 - 10 ppm, White Write
- QMS 8ppm Heavy Duty PostScript Laser
- Apple LD
- Apple ImageWriter Wide Carriage
- Apple ImageWriter

SOFTWARE CLEARANCE

- Lotus 123
- Excel 4.0
- PageMaker 3.02, FREE Upgrade to 5.0
- 40 1.06/3.0
- Gracelan 50 User Pack
- Gracelan Unlimited Corp. Pack

PARTS

- ALL APPLE/MACINTOSH PARTS
- ALL MAC LOGIC BOARD UPGRADES
- ALL MAC POWER SUPPLIES
- FCHD Upgrade for Mac II or SE
- Nexus 55 for IIfx (faster than Quad 900)
- QMS 4MB, Legal Pack for 100 MDL 10

BELOW COST SPECIALS

- Apple Token Talk 4/16 NuBus
- Mirrus Film Recorder
- Truevision NuVista+ PAL, 4MB
- Q500 w/ 33MHz Upgrade (950/800 speed)
- Exabyte 8mm 2.26B tape backup
- Shiva Fastpath 5
- Océ Color PostScript A/B, 11x17, 12MB
- QMS Color Script 100 MDL 30, 11x17

WE BUY MACS!!

Please fax list when possible.

Corporate, Government, and University PO's Welcome. Prices reflect cash discounts. Mastercard, Visa, AMEX, & Discover Accepted

International Sales 817.754.2120
Consultants/Dealers 817.754.2131
TeleFax 817.754.2345
300 South 13th St. • Waco, TX 76701

800.375.9000

CIRCLE 231 ON READER SERVICE CARD

MacUser Marketplace

To place your ad, call your MacUser Marketplace account representative today!

800-825-4237

COMPUTER SYSTEMS

MAC CITY COMPUTERS	Centris	Quadra	Powerbook	Printer	Monitor	CALL US LAST
13601 Ventura Blvd #182 Sherman Oaks, Ca 91423	660 8/230/500 2175/2579 660 WITH CD 2399/2799 650 24/500 CALL 650 8-230/CD CALL 610 8/230/CD 1699/1979 610 4/80/ET 1299/1379	840 8-230 / CD 3250/3575 840 16-500/ CD 4099/4399 840 16-1000CD RAM 4899 800 8-230/500/CD CALL 950 8-0/500 3099/3699 950 64/1.2G CALL	180c 4/160 CALL 14/213 CALL 14/340 CALL 180 4/80 2399 180 4/120 2599 14/213 CALL 160 4/40 CALL	165 8/120 Cali 165 14/213 Cali 165 4/80 1799 165c 4/120 1899 145b 4/40 1339 D230 4/80 1550 NEC Silentwriter HP 451 Cali	Vivid View 14" 339 Apple 14" 489 Apple 16" 1199 Radius Pres 20s 2295 Raster 20" Trint 2285 Supermac 20" 1449 Supermac 17" T 1075 Sony 1320/1730 Cali Nec 48G/5FG Cali	IIIX-SI-LCHII UMAX-MICROTECK MEM UPG HARD DRIVES CALL
ASK FOR LATEST PRICES NO TAX OUTSIDE CALIFORNIA Tel: (818)385-0080- Fax: (818)385-0081	WE CARRY FULL LINE MACINTOSH SYSTEMS ALL SYS ARE NEW ONE YEAR WARRANTY ALL NEW PRODUCTS CALL Same Day Shipping Visa-Mc-Amex-Discover Ok Since 1987					

CIRCLE 236 ON READER SERVICE CARD

COMPUTER REVELATIONS... "Best Selection... Best Service!" 1-800-275-9924

COMPUTER REVELATIONS	660 AV, 840AV CALL FOR PRICE!	Centris 610	Quadra 800	Powerbook	Umax	NOVELL	IBM	TOSHIBA	OPTIMA	PSI	NEC	radius
COMPUTER REVELATIONS INC 311E Dante Court Hoboken, NJ 07030 516-737-0800 fax 516-737-0923 BBS 516-737-0947	Mac LC III 4MB/40HD \$1175 4MB/80HD \$1275 4MB/160HD \$1399	4MB/80 \$1399 8MB/230 CD \$2199 Centris 650 4MB/80 \$2399 8MB/230 CD \$3525 Quadra 800 8MB/230MB \$3499 8MB/525MB \$4099 8MB/500MB/CD \$4199 Quadra 950 8MB/40HD \$3550 8MB/230HD \$3750 8MB/525HD \$4225	5MB/80HD CD \$1599 4MB/80HD \$Cali 4MB/230HDCD \$2199 SuperMac 17" Color \$1039 17" Color Plus \$1729 20" Color Plus \$2299 Spectrum 24 \$ 639 Duo's 210 4/80 \$1499 230 4/80 \$Cali Pro 600 \$1899 Pro 630 \$2375	160 4/40 \$1499 160 4/80 \$Cali 160 4/120 \$Cali 180 4/80 \$3749 180 4/120 \$4049 180c 4/80 \$Cali 180c 4/160 \$Cali H.P. Deskwriter \$309 Deskwriter \$409 Deskwriter 550 \$595 Laser 4M \$1899 Scanner IIC \$1379	Umax 630 \$899 Umax 840 \$1359 Umax 1200s \$2999 Trans Adat \$699 Apple 14" Color \$Cali 16" Color \$1229 Microtek \$899 Microtek IIX \$1149 Nec 3FG \$649 4FG \$Cali	IBM	TOSHIBA	OPTIMA	PSI	NEC	radius	
	Try us for software! ALDUS Pagemaker VER 5.0 \$535		CRI Extended Keyboards \$99.00									

CIRCLE 237 ON READER SERVICE CARD

Macintosh	POWERBOOKS	SUPERMAC	Printers & Scanners
Work Group Server CALL 950 8/525 3599 840 av 8/230 3249 840 av 16/500 4149 840 av 8/1.2 GB 4049 840 av 8/2.4 GB 5349 840 av 8/4.8 GB 7449 605 4/80 1349 605 8/230 1749 610 8/160 1399 610 8/500 1899 650 8/230 1999 650 8/500 2429 950 8/0 2999	Newton 789 Newton Pro 929 CD 300i 309 CD 300 External 399 Power CD 409 Multi-Media CD 659 radius RasterOps IBM MONITORS 17" 1360X1024 CALL 21" 1360X1024 CALL	145 B 4/40, 80 - 1249/1449 165 4/80, 160 - 1749/1999 165 C 4/80, 160 - 1599/1849 180 4/80, 160 - 2399/2699 180 C 4/80, 160 2799/2949 Duo 250 In Stock! Duo 270 c In Stock! Duo 230 4/80 1549 Duo 230 4/160 1799 Duo Dock 799 Mini Dock 529 EXPRESS Modem \$249 E-Machine Presenter - CALL E-Machine Etherdock - CALL 212/340MB HD In Stock!	Thunder 8/24 1019/1999 Spectrum 24 PDQ 1199 Spectrum 24 Ser. IV 749 Thunder Upgrade 469 17T Trinitron 999 20" Plus Color 1499 20" Trinitron Dual 2249 20-TXL Multimode 2379 20" Hi-Res. Trinitron 2549 21" Two-Page Clr. 2249 21" Gray Scale 749 21" Gray Scale 949 Photo Speed 2969 T-16 MR 1119 Futura SX 339
COMPU.D INTERNATIONAL INC	Sales (818) 787-3282 Fax (818) 787-5555	• Orders 1-800- 929-9333 •	COMDEX/Fall '93 BOOTH # S1679

CIRCLE 238 ON READER SERVICE CARD

1-800-334-KIWI
Call for lowest prices on NEW Mac systems.
Color Classic, Mac LC III
Centris 610, 650 & 660AV
Quadra: All models
Powerbook: All models
Apple & HP printers
Visa and Mastercard no surcharge.
All items are new. 1 year warranty. Most items in stock.
Returns are subject to a 15% restocking fee.
Established 1988. Better Business Bureau member.
Kiwi Computers is not affiliated with Kiwi Software, Inc.
Kiwi Computers, P.O. Box 67381, L.A., CA 90067
US & Canada (800) 334-5494 Fax (310) 286-9667
In California and Overseas (310) 553-4507
Hours: Mon-Fri 7.30am-5pm, Sat 9am-2pm PST

CIRCLE 239 ON READER SERVICE CARD

COMPUTER PROS
1-800-329-4MAC
"Over 18,000 products to choose from"
• Electronic Publishing • Multi Media • Government • Corporations
HARDWARE • STORAGE • SOFTWARE • MEMORY • SCANNERS

CPU	MISCELLANEOUS
Color Classic 4/80 \$1100 Mac LC III 4/80 1230 Mac II VX 5/80 CD.....1240 Centris 660 AV 8/230 ...2165 Quadra 840 AV 16/500. 4220 Quadra 950 8/0 3280 Powerbook 145B 4/401305 Powerbook 165 4/80.....1835 Powerbook 180C 4/803085 Call for unlisted models.	SimmsCALL VRAMCALL Newton Comm. System...815 128 MB Optical 899 44 MB Removable 399 88c MB Removable 499 UMAX 630 LE *859 Keytronic Keyboard 125 Apple Extended KB 155 All advertised prices subject to change.
MONITORS	PRINTERS
Sony 1320 390 Sony 1730 1050 Apple 14" 495 Apple AV 14" 679 Supermac 20T 2499 Thunderstorm Pro 2789 Spectrum 24 PDQ 1495 Spectrum 24 IV 825	NEC Silentwriter 95 \$ 999 DEC 999 HP 4ML 1060 GCC Call Amex • Visa • MasterCard Español (305) 581-6004 1-800-329-4622 Ft. Lauderdale, Florida

NEC MasterCard QMS VISA

CIRCLE 240 ON READER SERVICE CARD

COMPUTER SYSTEMS

New-Used Macs/Parts/Upgrade

Classic II 2/40



Personal L'writer NTR



PowerBooks

100 2/20.....	799.
100 4/40.....	999.
140 2/20.....	999.
140 4/40.....	1199.
170 4/40.....	1799.
170 4/120.....	2099.



UPGRADES

Ilx to Ilci.....	\$799.
Il to Ilfx.....	1299.
Ilx to Ilfx.....	999.
Ilci to Quadra 700.....	Call.
Mac 512ke to plus.....	179.
SE 800k to FDHD (ROMonly).....	99.

PRINTERS

Imagewriter II.....	\$299.
Stylewriter.....	199.
Imagewriter LQ.....	399.
Laserwriter IInt.....	849.
Laserwriter IIntx.....	1199.
Personal L'writer LS.....	499.
Personal L'writer NT.....	649.
Personal L'writer NTR.....	799.

All equipment is used or demo unless otherwise stated. Equipment carries a 120-day warranty. Returns subject to a 15% restocking fee. Prices subject to change. Prices represent cash discount.

PowerBook 160 4/40 (NEW).....\$1399.

PowerBook 165c 4/80 (NEW)....\$1599.

Parts Parts Parts Parts Parts

Mac Plus ROMS.....	\$129.	LC logic board.....	349.
800k floppy mech.....	99.	L'writer IInt logic bd.....	299.
1.44 floppy mech.....	269.	Mac II logic board.....	199.
Plus power supply.....	119.	Portable 40-meg int. HD.....	199.
Appletalk PC card.....	49.	Personal SC board.....	39.
SE analog board.....	119.	Video boards.....	Call.
Plus logic board.....	149.	Personal NT logic bd.....	249.
SE logic board.....	149.	Laserwriter IIntx Lb.....	499.
		Classic logic board.....	149.
		Classic power supply.....	99.

PowerBook Parts In-stock!!

SYSTEMS

Plus.....	\$349.
SE 1/20.....	499.
Classic 4/40.....	699.
Mac II 0/0.....	499.
Ilx 0/0.....	779.
Ilx 0/0.....	999.
Portable 1/40.....	699.
Ilci 0/0.....	1299.
Quadas.....	Call.
Mac Ilfx 0/0 (NEW).....	1999.

Cases

Mac II.....	\$129.
Mac Ilfx.....	199.
Mac SE.....	39.
Mac Classic.....	39.
Mac LC.....	99.
Mac Ilx.....	199.

Shreve Systems

1200 Marshall St Shreveport LA 71101
FAX 318-424-9771 Tech 318-424-7987

800-227-3971

CIRCLE 241 ON READER SERVICE CARD

DIRECT PRO FROM THE MANUFACTURER TO YOU

LIFETIME WARRANTY ON ALL MEMORY • SAME DAY SHIPMENT • MEMORY MADE IN USA

MAC MEMORY		QUADRA 800	
1 meg	CALL	4 mb-60ns	CALL
2 meg	CALL	8 mb-60ns	CALL
4 meg	CALL	16 mb-60ns	CALL
16 meg	CALL	32 mb-60ns	CALL
FX-1 meg	CALL	ACCELERATORS-VRAM	
FX-4 meg	CALL	256K VRAM-Q900/700	\$29
FX-16 meg	CALL	512K VRAM-LC	\$49
POWERBOOK		FPU-LCII Math-Co-Pro	\$59
4 mb-PB 100	CALL	FPU-Classical Math-Co-Pro	\$59
6 mb-PB 100	CALL	ACCESSORIES	
4 mb-PB 140/170	CALL	12 V/110V inverter for PB-100 watt	\$79.00
6 mb-PB 140/170	CALL	Large Inverters available	CALL
4 mb-PB 160/180	CALL	Ergo-Pad (anti-carpal Tunnel Synd.)	\$16.95
6 mb-PB 160/180	CALL	Eco-Ink color refill HP C/550c	\$49.95
8 mb-PB 160/180	CALL	Laser Toner Recharge	from \$44.95
10 mb-PB 160/180	CALL	HARD DRIVES	
4/6/8-PB165C	CALL	Quantum 42 ELS	\$199 \$259
4 mb-Duo 210/230	CALL	Quantum 85 ELS	\$215 \$279
8 mb-Duo 210/230	CALL	Quantum 127 ELS	\$289 \$345
CENTRIS		Quantum 170 ELS	\$319 \$379
4 mb-70ns	CALL	Quantum 240 LPS	\$399 \$459
8 mb-70ns	CALL	Quantum 524 mb.	\$1,009 \$1,065
16 mb-70ns	CALL	Quantum 1225mb.	\$1,614 \$1,670

Battery Powered Portable 80mb. HD	\$469	PB 180C 4/80	\$3,479
Battery Powered Portable 120mb. HD	\$515	PB 180 4/80	\$3,072
Battery Powered Portable 160mb. HD	\$715	PB 180 6/120	\$3,879
REMOVABLES		PB 180 8/160	\$4,079
Optical 128mb. removable	\$995 \$1,099	DUO 210 4/80	\$1,303
Syquest 44mb. SQ555	\$327 \$ 384	DUO 210 8/120	\$2,595
Syquest 88mb. SQ110	\$399 \$ 465	DUO 230 4/80	\$1,609
Syquest 105mb. 3.5" Inc.	\$547 \$ 595	DUO 230 8/80	\$2,353
Syquest 88C Reads/Writes 44/88	\$449 \$ 479	DUO 230 12/120	\$2,995
CARTRIDGES		DUO 230 4/120	\$2,171
SD400 44mb. Cartridges	\$ 62	DUO DOCK	\$1,025
SD800 88mb. Cartridges	\$ 94	LCII 4/80	\$1,263
SD310 105mb. Cartridges	\$ 69	LCIII 4/80	\$1,475
COMPUTERS		CLASSIC II 4/80	\$ 966
PB 145B 4/40 in stock	\$1,337	COLOR CLASSIC 4/80	\$1,132
PB 145B 4/80 in stock	\$1,571	COLOR CLASSIC 8/80	\$1,449
PB 160 4/40	\$1,505	CENTRIS 610 4/80	\$1,419
PB 160 4/80	\$1,843	CENTRIS 610 8/80 CD	\$1,530
PB 160 6/120	\$2,424	CENTRIS 610 8/120	\$1,995
PB 160 8/160	\$2,631	CENTRIS 610 8/230	\$2,175
PB 165C 4/80	\$2,145	CENTRIS 610 8/230 CD	\$1,907
PB 165C 6/120	\$3,595	CENTRIS 610 8/230 CD	\$2,080
PB 165C 8/160	\$2,831	CENTRIS 650 4/80	\$2,400
PB 165C 4/120 ext. modem	\$2,714	CENTRIS 650 8/80	\$2,862
PB 180C 4/160 ext. modem	\$4,051	CENTRIS 650 8/120	\$2,885

CENTRIS 610 4/80

ONLY \$63.41/MO*
LEASING AVAILABLE

CENTRIS 650 8/230	\$2,213
CENTRIS 650 8/230 CD	\$2,551
CENTRIS 660AV 8/230	\$2,213
CENTRIS 660AV 8/230 CD	\$2,488
CENTRIS 660AV 8/500	\$2,791
CENTRIS 660AV 8/500 CD	\$3,066
CENTRIS 8/230	\$3,179
QUADRA 800 8/230	\$3,175
QUADRA 800 8/500	\$3,782
QUADRA 800 8/500 CD	\$4,043
QUADRA 800 16/525	\$4,856
QUADRA 840AV 8/230	\$3,428
QUADRA 840AV 8/230 CD	\$3,707
QUADRA 840AV 16/500	\$4,313
QUADRA 840AV 16/500 CD	\$4,591
QUADRA 950 8/0	\$3,370
QUADRA 950 8/1GB.	\$4,254
QUADRA 950 24/525	\$6,350
QUADRA 950 40/1GB.	\$7,170

* LEASING PAYMENTS BASED UPON 48 MOS. LEASE
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

1-800-326-6175 • FAX 713-444-7868

5629 FM 1960 WEST, SUITE 116,
HOUSTON, TEXAS 77069



CIRCLE 242 ON READER SERVICE CARD

ACCESS II 800-662-5606

NEW MACS ON SALE

WE DEAL EXCLUSIVELY IN MAC SYSTEMS AND PERIPHERALS.
DON'T BUY UNTIL YOU TALK TO THE PROS.

INTERNATIONAL ORDERS WELCOME TEL. 603-890-3333 / FAX 603-890-3155
26 KEEWAYDIN DRIVE • SALEM, NH 03079 CALL FOR LATEST PRICING

CIRCLE 243 ON READER SERVICE CARD

MacBYTE

22775 Pacific Coast Hwy, Malibu, CA 90265

Buy • Sell • Trade Macintosh Computers

Cash For Your Mac or Peripheral
Low & High End Custom Setups
Preowned Macs with Warranty
FAX 310-317-1583

800-432-2983
310-317-1588

CIRCLE 244 ON READER SERVICE CARD

COMPUTER SYSTEMS

MAC-TOUCH
800-494-6666

WE SELL ONLY NEW SYSTEMS
WITH ONE YEAR WARRANTY

TEL: (310) 268-5544
FAX: (310) 473-0057

180 Power Book 180 C
4/80.....2469 4/80.....2939
4/120.....2699 4/160.....3159

165 Power Book 165 C
4/80.....1799 4/80.....1829
4/160.....2099 4/160.....2159

Newton
Call for quotes

Quadra 840 AV
8/230.....3299 16/500.....4099
8/230 w/CD.....3599 16/500 C.....4359

Quadra 950
8/500.....4199 8/0.....3199
8/1GB.....5199 8/230.....3699

Centris 660 AV
8/230.....2159 8/500.....2699
8/230/CD.....2399 8/500/CD.....2959

Centris 650
8/230.....2159 8/500.....2699
8/230/CD.....2359 8/500/CD.....2959

LC III Classic II
4/80.....1259 4/80.....1049
4/160.....1379 4/80Cl.....1189

SuperMac
Super M 17.....999 Thunder 24.....2145
Super M 20T.....2399 Spectrum.....785

Dealers & International ORDERS WELCOME! All prices reflect cash orders only & are subject to change without notice

CIRCLE 245 ON READER SERVICE CARD



800-223-4622

We Carry New Products Only!

All products have one year warranty

- Free Shipping in U.S. for all CPU Repairs
- Free Shipping in California
- Free Technical support with purchase
- Free shipping in U.S. for back order products
- Free FWB Toolkit with every Mac system
- You are not charged until your order is ready
- Visa, MC & Discover add 2%
- Prices are subject to change without notice
- All Returns are subject to restocking fee

TEL: 818-708-6388
FAX: 818-708-6399
6924 Canby Ave. #104 Reseda CA. 91335

Fly the market with **MACMARKET FASTFACTS**: For updated prices & additional information on all products available Through **MACMARKET** call our **FASTFACTS LINE AT 818-609-1042**

For APPLE'S latest
(PowerBooks, color Duos, LCIV
Newton & Printers) please call
our Fastfacts line: 818-609-1042

Quadra 950
64Mb/1Gb.....6446 24Mb/800Mb.....4455
128Mb/1.7Gb HD/88c Syquest/SuperMac 20T XL.....12022

Quadra 840AV
8Mb/230Mb.....3444 20Mb/800Mb.....4399
40Mb/2.1Gb/88c Syquest/SuperMac 20T XL.....5999

Quadra 800
8Mb/230Mb.....2795 20Mb/800Mb.....3099
40Mb/2.1Gb/88c Syquest/SuperMac 20T XL.....8222

Centris 650
8Mb/230Mb.....2111 24Mb/800Mb.....3232
40Mb/1Gb/88c Syquest/SuperMac 17T.....6555

Centris 660AV
8Mb/230Mb/14" Color Monitor/Standard KB.....2699
8Mb/80Mb/14" Mono Monitor/Ext. KB.....2222
8Mb/230Mb/SuperMac 17T Col./Ext. KB/CD.....3635

Centris 610
8Mb/230Mb/14" Color Monitor/Ext. KB.....2222
8Mb/80Mb/14" Mono Monitor/Standard KB.....1777
8Mb/230Mb/SuperMac 17T Col./Ext. KB/CD.....3222

SuperMac
Thunder 24.....2150 SuperMatch 17.....1125
Thunder II.....3295 SuperMatch 17T.....1045
Spec 24 V.....789 20T XL Color.....2595
Spec 8 Series II.....419 20" Color Plus.....1579
Spec 24 PQD+.....1479 Platinum 21.....995
Spec 8 LC.....499 SmartTouch 17.....2295

E-Machines
Color Page 116.....1195 Futura LX.....395
Futura SX.....349 Futura LX.....589

Radius
Intellicolor Display/20.....2523 Precision Color Print.....945
Precision Color 20V.....1769 Pivot Mono Display 15".....589
Full Page Display 15".....469 Two Page Mono 19".....669
24XK Video Bro.....839 Two Page Mono 21".....859

PLI
386 MB R/W.....549 Optical 128M.....999
Unity 105.....688 CD Rom MS.....599
JAT 10GB/Retrospect 1575 DAT 4 GB/Retrospect 1333

FWB
Hammer 1600MF.....1869 Hammer 2600MF.....3649
External Optical hammer 1000/4 average seek 35.....1869

HP
Laser 4M.....1879 Laser 4ML.....999
PLP II.....649 GSC Wilemova II.....505
BLP Elite 2MB.....849 BLP Eclipse.....1588

Microtek
ScanMaker II.....849 ScanMaker XE.....1095
UMAX
UC 630 LE.....749 UC 1200SE.....2995
UC 840.....1249 UC 1260.....1749

Sony
1320/1430.....379/595 1730.....1095

NewGen
1200 B (11K17).....455 600 (11K17).....3695

Daystar
33MHz Power Cache/WFFU.....269/449
40MHz Power Cache/WFFU.....539/599
50MHz Power Cache/WFFU.....649/749
FastCache 040 for Quadra 7, 9, 950.....379
New Turbo 040 Accelerators 33MHz.....849

Pinnacle Micro
PMD 650MB Optical.....2665 Recordable CD-ROM DR.....3444

Color Di-Sub Printers
Kodak Color Ease 3000P, 16MB, 120 MB HD.....6799
SuperMac Pro/Postive Two Pages.....16444
RasterOps Correctprint 33/16 RISC.....5222
RasterOps Correctprint 33/36 RISC.....7266

NIKON COOL SCAN (Scans 35mm Slides).....1795
Mouse w/Pad.....59 Numeric Keypad PB.....64
44MB Syquest.....369 88C/44 Syquest.....459

CIRCLE 246 ON READER SERVICE CARD

WE WELCOME INTERNATIONAL & DEALERS

Centris, VX, LCIII
650 8-230 2035 610 8-230 CALL
650 8-230 2335 VX 4-80 1099
660 8-520 CALL LC III 1195
660 8-0 1995 Colr. Classic 1145

QUADRA
840 0-0 3135 800 8-230 CALL
840 16-520 4169 950 8-520 In Stock

Power Book 180 160 165C
180C 4-120 CALL Newton 789
180C 4-220 3350 170 2-80 1745
180 4-80 2360 180 4-120 CALL

WE TRADE IN YOUR
OLD MAC FOR
A NEW MAC

TRADE & UPGRADE

800 to Q840 CALL Q840 UPG CALL
Q900 to 840 1875 Q700 to 840 1995
Ci to Q800 2075 Si TO 610 790
Ci to Cts650 1175 CX TO C650 1545
LC Upgrade CALL Cx to Q800 CALL

PowerBook
170 to 180 1240 170 to 180c Call
160 to 180 Call 160 to 165 999
140 to 165 1190 140 to 160 Call

POWERBOOK 165C \$1470
POWERBOOK 160 \$1395
LC II TO LC III \$450

INTERNATIONAL COMPUTER & NETWORKING
TEL (310) 441-9181
FAX (310) 479-0124
10835 Santa Monica Blvd., Suite 102, LA, CA 90025

CIRCLE 248 ON READER SERVICE CARD

BIG MAC

Computers, Inc.
Division of WCN

POWER BOOKS
180C8/80 2995
180C8/160 3150
180C14/300 3995
165C4/80 1625
165C14/213 2725
165 4/80 1850
165 4/160 1975
165 14/210 2975
180 8/80 2695
180 8/120 2875
180 14/300 3795
160's & Duo's CALL

QUADRA'S

840AV 0/0 3150
840AV 8/230 3395
840AV 16/500 4295
840AV 40/1.2 5695
840AV 64/2.0 7995
840AV 16/500CD 4650
800 8/0 2795
800 8/500CD 3695
950 8/80 3295
950 16/525 4195
950 64/1.2 6895
900 & 700 CALL

NEW STUFF

Newton
Apple Power CD 530
Color Duo's CALL
LC520 CALL

Custom Made Configuration for
Audio Video & Desktop Publishing

10837 Santa Monica Blvd. Los Angeles, CA 90025
Tel: (310) 470-7099 • Fax: (310) 470-8099

CIRCLE 247 ON READER SERVICE CARD

ELITE COMPUTERS & SOFTWARE, INC.
Buy • Sell • Trade • Rent • Lease • Repair • Service • New & Used
"Macintosh Asset Remarketing Specialists Since 1987"

E-Machines Below Dealer Cost!!

E-Machines Monitors
E-Machines T16.....\$799 8 Bit Futura SX.....\$279
E-Machines T16II.....\$899
E-Machines T19.....\$1499 QuickView Studio QT.....\$499
E-Machines T19II.....\$1599 Complete 24 Bit Sound & Video Editing

E-Machines Cards 19"
8 Bit DoubleColor LC.....\$149 Apple 13" RGB Trinitron.....\$399
8 Bit DoubleColor SX.....\$199 Apple Portrait w/Card.....\$599
24 Bit Futura SX.....\$279 Apple 21" Color Display.....\$1699

Apple Monitor Specials
Apple 13" RGB Trinitron.....\$399
Apple Portrait w/Card.....\$599
Apple 21" Color Display.....\$1699

Link Us On
AppleLink
ELITE

Phone: 408-725-1556 • Fax: 408-973-1483
ECS • P.O. Box 756 • Cupertino • CA • 95015-0756 • Hours: Mon - Fri 8-6:30, Sat 12-5 • 1 year limited warranty on all Mac CPUs. Prices are subject to change without notice. These are cash prices. Quantities are limited.

CIRCLE 249 ON READER SERVICE CARD

We carry everything for MAC • Since 1987

CENTRIS
660AV 8/0 2095
660AV 8/230 2275
660AV 8/230CD 2495
650 8/80 1850
650 8/230 2095
650 8/230-CD 2495
610 4/80 1395

LOGICBOARDS
IIF/IIG 895/1195
IIFX/Ci 1395/950
650/900 CALL/1650
950/800 2295
NT/NTX 295/595

APPLE MONITOR
14" /Basic 489/350
16" Color 1230
14" AV Color 750

PRINTERS
600/630 1595/2320
300/310 785/995
HP 4ML 1095
HP 4M 1875
HP550C 649

DEMO MAC'S
900 4/0 2895
950 8/0 2895
IIFX 4/80 1695
IICL 5/80 1595
IICX 4/80 995
800 8/230 2495
P.B.160 4/40 1195
P.B.170 4/40 1595

EXCHANGE ANY OLD MAC TO A NEW MAC
700/900 - 840AD 1995
CALL FX to 840AD 1995
Ci to 950 1995
P.B.160 to 180C 1895
P.B.170 to 180C 1695

Call for APPLE 3rd party products • International Orders.
Visa, MC & AmEx Welcome • Next Day Shipping for U.S.A. & International
Prices are subject to change w/o notice • All prices shown are C.O.D. Prices

More than three quarters of
MacUser subscribers will purchase
Macintosh products through mail
order in the next 12 months;
85% of these will be purchasing
software.

Will they buy from you?

Only if you advertise in MacUser
Marketplace. Call your account rep-
resentative at 800-825-4237 today!

Source: MacUser Mail Order Report, 1991

DISK DRIVES

TMS

Peripherals

Quantum

Shadow 525

"TMS Peripherals... combination of better-than-average speed, design and construction quality, packaging, and support is a sum greater than its parts."

—MacUSER
April 1992

\$759

SHADOW/PRO STANDARD FEATURES:

System 7.1 & 25+ Mbs of PD shareware • TMS DiskWriter
Formatter & Manual • Shadow or Pro Series User's Guide •
International auto-switching power supply • Thermally
controlled fan (Pro only) • External SCSI ID switch • Dual courtesy
AC jacks (Pro only) • SCSI-Tee for daisy-chaining (Shadow) •
EXCELLENT Customer & Tech Support • 30 Day Money Back
Guarantee • 1, 2 or 5 Year Warranty/ESP Warranty (optional)

TMS SHADOW & PRO SERIES DRIVES

	Int.	Pro	Shadow
QUANTUM 85 ELS 2 yr.	\$189	\$249	\$249
QUANTUM 170 ELS 2 yr.	\$229	\$289	\$289
QUANTUM 240 LPS 2 yr.	\$299	\$359	\$359
QUANTUM 525 5 yr.	\$699	\$759	\$759
QUANTUM 1050 5 yr.	\$1029	\$1089	\$1089
QUANTUM 1225 5 yr.	\$1149	\$1209	\$1209
QUANTUM 2025 5 yr.	\$1509	\$1569	\$1569

*Internal prices include complete bracket kit

Soft-Touch Carrying Case \$10.00

SyQuest®

TMS SyQuest PRO REMOVABLES

TMS Pro R44 with 1 cartridge \$369
TMS Pro R88c with 1 cartridge \$535
TMS Pro R105 with 1 cartridge \$589
Extra cartridges R44 \$61, R88c \$95, R105 \$75



SHOWN ABOVE: TMS Pro SyQuest Removable, TMS Pro Quantum Hard Drive & TMS Pro Teac Tape Backup System

Teac

TMS TEAC PRO TAPE BACKUP

TMS Pro T155 & 1 tape \$469
Tapes \$18.50 w/ RETROSPECT, add \$100

Q. Why a TMS Pro Tape Backup System?
A. Because tape is inexpensive, fast and backed by TMS' 1 Year Parts & Labor Warranty!

***** December Specials *****

NEW!!! Value 040 & 040i's
Mac LC, LCII, Performa 400,
405, & 430 • \$385-\$1459
Image 040 • Only \$2189

Macintosh®

New-IN STOCK!

Quadra 840av 8/230 \$3,799.00
with Apple 300i CD ROM
Centris 660av 8/230 \$2,559.00
with Apple 300i CD ROM
Apple AudioVision 14" Color Display \$739.00

Please call for current prices!
WARRANTIES: All warranties on Apple brand products sold by TMS will be honored by TMS. TMS is not an authorized Apple reseller.

MOTOROLA MATH COPROCESSORS

68882-16 MHz FPU, PLCC	\$59
68882-20 MHz FPU, PLCC	\$66
68882-25 MHz FPU, PLCC / PGA	\$75 / 75
68882-33 MHz FPU, PLCC / PGA	\$85 / 85
68882-40 MHz FPU, PLCC / PGA	\$119 / 90
68882-50 MHz FPU, PGA	\$120

SIMMs • VRAM Lifetime Warranty

1 Mb / 4 Mb-30 pin-70ns \$49 / 149
4 Mb-72 pin-70ns/60ns \$159 / 169
8 Mb-72 pin-70ns/60ns Call / Call
16 Mb-72 pin-70ns/60ns Call / Call
256K VRAM 80ns/512K LC VRAM \$20 / 42
Call for current PowerBook/Duo prices. TMS stocks the entire complement of PowerBook & Duo SIMMs. Call for CURRENT PRICES! Prices can fluctuate daily!

SUPERMAC

SuperMatch 17T

"Full-page Trinitron Color Display"

\$1035!

MONITORS

SuperMatch 20T MultiMode XL	\$2529
SuperMatch 17 Touch Screen	\$2485
E-Machines E-20 Dual Mode	\$1469
E-Machines T-20XL	\$2499
E-Machines ColorPage T16 II	\$1225

MULTIMEDIA / 8, 24-bit COLOR CARDS

ThunderStorm	\$599
ThunderLight	\$1669
Thunder II Light	\$2649
ThunderStorm Pro	\$2779
Spectrum/8 Series III	\$389
Spectrum 8 • 24	\$389
Spectrum/8 • 24 PDQ or PDQ si	\$759
Spectrum/24 Series IV	\$789
Futura SX / MX / LX	\$465 / 795 / 1025
E-Machines PowerLink Presenter	\$409
VideoSpigot NuBus / Pro NuBus	\$349 / 979
VideoSpigot & Sound NuBus / Pro NuBus	\$475 / 1125

radius

ACCELERATORS

Rocket 33 / 25 / 25i \$1429 / 899 / 929
RocketShare / DSP PhotoBooster \$399 / 795
SCSI-2 Booster Launch \$239

MONITORS

Two Page Display/21E \$1039
IntelliColor Display/20 \$2559

MULTIMEDIA / GRAPHIC CARDS

PrecisionColor 8XJ	\$479
PrecisionColor 24X / 24XK (7" cards)	\$1479 / 799
VideoVision™ Basic	\$1619
VideoVision™ Presentation	\$1919
VideoVision™ Studio	\$3689
VideoVision™ Studio Upgrade	\$1619
PrecisionColor Pro 24X / 24XP (7" cards)	\$1999 / 479



RADIUS products are to be sold in the United States only & are not for export.

DAYSTAR

D I G I T A L

40 MHz Turbo 040 & 128k SRAM Cache

"Excellent MacWEEK MAY 17, 1993"

\$1539!

TURBO '040 ACCELERATORS

Turbo 040 / 040i 33 MHz w/ Cache Card	\$1209 / 959
Turbo 040 / 040i 25 MHz w/ Cache Card	\$1039 / 879
Turbo 040i 20 MHz w/ Cache Card	\$799
Turbo 040 33/25 MHz (No Cache)	\$1059 / 889
Turbo 040i 33/25/20 MHz (No Cache)	\$809 / 729 / 649

UNIVERSAL 6 SE/30 '030 POWERCACHES

PowerCache 50 MHz / with FPU	\$609 / 725
PowerCache 40 MHz / with FPU	\$489 / 575
PowerCache 33 MHz / with FPU	\$329 / 409

CACHE CARDS

FastCache 040 Quadra (700,800,900,950)	\$365
ComboCache IIs/FPU	\$199 / 282
NEW Charger Plus / Charger	\$609 / 469
Charger QUIC / PFS / Kodak DCS 200 Software	\$649 / 1779 / 165



PAYMENT: Visa, Mastercard, Discover, Cashier's Checks/MOs, PC's and COO's accepted. **TAX:** Florida residents add 6% sales tax. **PRICES:** Subject to change and availability. **SHIPPING:** Minimum \$5-UPS Ground, Blue, Red & Federal Express Economy. **RETURNS:** Products must be in original condition and require an RMA. Seal must not be opened on software packages. Some items may be subject to a restocking fee. Please inquire when ordering. TMS will not be held liable for errors in typing or photography. All Trademarks and Service Marks belong to their respective owners.

Tech. Support & Customer Service 10 a.m.-6 p.m. M-F (EST)
Compuserve: 75300,2231 • America On Line: TMS Periph

800-ASK-4TMS

1120 Holland Drive, Suite 16 • Boca Raton, Florida 33487

Sales: 9 a.m.-8 p.m. M-F; 10 a.m.-4 p.m. Sat. (EST)

FAX: 407.998.9983

International 407.998.9928

Reference: MU1293

DISK DRIVES

Pacific Mac

800-546-4622

24 Hr Fax (714) 666-8550

Local (714) 666-8550

AMEX*DISCOVER*MC*VISA

QUANTUM

	Intern	Extern
160 MB 2.5" 17ms	289.-	369.-
85 MB 3.5" 17ms	169.-	229.-
127 MB 3.5" 17ms	190.-	250.-
170 MB 3.5" 17ms	195.-	255.-
240 MB 3.5" 10ms	255.-	315.-
525 MB 3.5" 10ms	630.-	690.-
700 MB 3.5" 10ms	795.-	855.-
1.0 MB 3.5" 10ms	940.-	1000.-
1.2 MB 3.5" 10ms	1060.-	1110.-

TWO YEAR WARRANTY!

FUJITSU

	Intern	Extern
520 MB 3.5" 9ms	660.-	720.-
1.2 GB 3.5" 8.5ms	995.-	1055.-
2.1 GB 5.25" 11ms	1835.-	1895.-
2.4 GB 5.25" 11ms	1825.-	1885.-

FIVE YEAR WARRANTY!

MAXTOR

	Intern	Extern
120 MB 3.5" 15ms	185.-	245.-
213 MB 3.5" 15ms	259.-	319.-
540 MB 3.5" 8.5ms	780.-	840.-
1.2 GB 3.5" 8.5ms	1150.-	1210.-
1.7 GB 5.25" 13ms	1185.-	1245.-

SEAGATE

	Intern	Extern
1.2 GB ST11200N 3.5" 10.5ms	920.-	980.-
2.4 GB ST12400N 3.5" 9ms	1979.-	2039.-
2.4 GB ST12550N 3.5" 8ms	2240.-	2300.-
1.9 GB ST11950N 3.5" 15ms	1689.-	1749.-
2.1 GB ST42100N 5.25" 12.9ms	1515.-	1575.-
1.6 GB ST41600N 5.25" 11.5ms	1399.-	1459.-
2.4 GB ST42400N 5.25" 11ms	1790.-	1850.-
3.4 GB ST43400N 5.25" 11ms	2270.-	2330.-

MICROPOLIS

	Intern	Extern
1.2 GB 2112 3.5" 10ms	980.-	1040.-
2.0 GB 2217 3.5" 10ms	1375.-	1435.-

FIVE YEAR WARRANTY!

SYQUEST

	Intern	Extern
44 MB 5.25" 45ms	345.-	375.-
88 MB 5.25" 45ms	439.-	469.-
88c MB 5.25" 45ms	479.-	509.-
105 MB 3.5" 45ms	610.-	640.-

All Syquest drives include Cartridge and software

OPTICAL DRIVES

	Extern
FUJITSU 128 35ms	925.-
SONY 128 45ms	979.-
PANASONIC 128 45ms	909.-

All Optical drives include Disk, Software and Manual

FAX MODEMS

SUPRA FAX MODEMS

V.32bis S/R Fax 14.4 Stand-Alone	232.-
V.32bis S/R Fax 14.4 with Software	286.-
V.42bis S/R Fax 14.4 LC w/Software	236.-
V.32bis S/R Fax 14.4 for PB Internal	296.-
V.32bis S/R Fax 14.4 for PB w/Voice	392.-

PSI

COMstation One/Two	174/234.-
COMstation Four/Five	354/424.-
PowerModem One/Two	104/224.-
PowerModem Three/Four	314/374.-

US ROBOTICS

Mac & Fax Sportster 14.4 S/R Fax	238.-
----------------------------------	--------------

GLOBAL VILLAGE

PowerPort Bronze/Silver/Gold	160/310/360
TelePort Bronze/Silver/Gold	170/310/360

RASTEROPS

2168 21" Color Display	2294.-
2085H 20" Multimode Color	1318.-
2075RO 20" Multiscan Trin.	2294.-
2020C Multimode Color	1378.-
Sweet 16" Color Display	898.-
24MxTV/24MXQ	598/1164.-
24XLI/24SX	1868/568.-
24XLT/24MxTV	
And more	

SUPERMAC

SuperMatch 17" Multimode	998.-
SuperMatch 17T Color Monitor	1048.-
SuperMatch 21" 2-Page Color	2375.-
Thunderstorm Deluxe	825.-
Thunder II Card	3395.-
Spectrum/24 Series IV	775.-
Spectrum/24 PDQ PLus	1434.-
Spectrum/8" 24 PDQ si	745.-
And More	

RADIUS

IntelliColor Display 20	2599.-
PrecisionColor Pro 24X Card	2099.-
PrecisionColor 24X/24XK Cards	1475/814.-
PrecisionColor 24XP/8XJ Cards	499.-
PrecisionColor Pivot 15" Mon	925.-
VideoVision Studio (and more)	3685.-
Rocket 25i/Rocket 33	965/1445.-
And more	

MICROTEK

ScanMaker II/IXE	875/1155.-
ScanMaker 35T	1375.-
Automatic Document Feeder	465.-

CD ROM DRIVES FAST

TOSHIBA XM3401B External	\$519.00
TOSHIBA XM3301B External	\$455.00
TEXEL DM3024 External	\$425.00
CHINON 435 External	\$398.00

Choose from following bundles: ADD

BUNDLE A (Choose any 5 titles for \$89.-)

1. Cartoon Idioms
2. Graphic Textures
3. Lucas Game Pack II
4. Media Clips: Wild Places
5. Media Clips: World View
6. US Atlas
7. Multimedia Audubon Birds
8. World Atlas
9. Multimedia Audubon Mammals
10. Publish It v2.0
11. TIME Dessert Storm
12. Sherlock Holmes Consulting detective

BUNDLE B (Choose any 3 Titles for \$75.-)

1. Time Table of History, Science & Innovation
2. World/US Atlas Pack
3. Family Doctor
4. Multimedia CIA/KGB World Fact Book
5. Media Clips: Jets & Props
6. Guinness Disk of Records 1993
7. Great Wonders of the World
8. Beyond the World of Stars
9. Animals of the San Diego Zoo

BUNDLE C (Choose any 3 Titles for \$125.-)

1. Color Magic
2. Publish It v3.0
3. Grollier Multimedia Encyclopedia v1.5 1992
4. Lost Treasures of Infocom Vol. 1
5. Lost Treasures of Infocom Vol. 2

Half Height Cabinet Kits for 3.5" and 5.25" Drives with all necessary cables. They come with the best power supply available for only \$79.00.

Micellaneous

Full Height Cabinet Kits 5.25"	\$115.-
Single SCSI Terminators	\$6.-
Pass-Through SCSI Terminators	\$10.-
Pocket 2.5" External Kit w/ cables	\$45.-
HDI-30 to DB25 Adaptor	\$24.-
Double Insulated 25/50pin Cable	\$8.-
Double Insulated 50/50pin Cable	\$12.-
101 Keyboard for the Mac (Available in English, French, German, Spanish).	\$85.-

HEWLETT PACKARD DAT !!!

5.0 GB External with One Tape for only \$1099.00

International order per fax 24hrs. Spanish, Japanese speaking sales representatives available.

Pacific Mac
1205 N. Red Gum
Suite E
Anaheim, CA 92806

DISKETTES

OPTICAL DISKS

Don't pay more for the same Optical Disk!
We guarantee the lowest prices and highest quality!

3-1/2" 128MB Optical \$31
5-1/4" 650MB Optical \$89

◆ Idemitsu ◆ Plasmon ◆ MaxOptics ◆ Hoechst
Compatible w/all ISO Standard Drives. All disks fully guaranteed.

OptiMedia, Inc.

831 Grove Road, Midlothian, VA 23113

Int'l: 804-794-5852

1-800-775-0949

Fax: 804-794-6194

CIRCLE 252 ON READER SERVICE CARD

FORMATTED DISKETTES BASF, VERBATIM, SONY

WITH FORMAT	QTY 250 MIX & MATCH	WITHOUT FORMAT
\$38	5.25" DS/DD	\$33
\$52	5.25" DS/HD	\$42
\$59	3.50" DS/DD	\$49
\$89	3.50" DS/HD	\$79

• **FREE FORMATTING** on First Order
• **TYVEC SLEEVES** Included (5.25")
• **COLOR MEDIA** Please Add \$.05
• **VOLUME DISCOUNTS** Available
• **SAME DAY** Shipping
• **MONEY BACK GUARANTEE**

800-255-3142

Diversified Systems Group, Inc.
PO Box 1114, Issaquah WA 98027

CIRCLE 253 ON READER SERVICE CARD

MEMORY

**32MB
Centris/LC III
\$1,495**

Call for updated prices on all
memory requirements

(800) 209-7126

Sermex Technology, New York, NY
Tel: (212) 410-1597 Fax: (212) 410-0452

CIRCLE 313 ON READER SERVICE CARD

MEMORY UPGRADES

GENERAL

Pre-Owned Electronics^{INC}

INCORPORATED
THE Independent Provider, serving the Dealer, Professional, Corporate,
Government & Educational Buyer since 1985

Apple & Macintosh Systems,
Parts, and Exchange Repairs

**WE BUY
MACS!**

CALL FOR
A CATALOG **(800)274-5343** Int'l: (617)275-4600
205 BURLINGTON ROAD • BEDFORD • MA 01730
FAX: (617)275-4848

CIRCLE 254 ON READER SERVICE CARD

MEMORY UPGRADES

MEMORY

CALL US LAST FOR LOWEST
PRICES ON ALL MAC MEMORY.
1MB TO 32MB. ALL POWER
BOOKS, DUO'S, PRINTERS
ACCELERATOR BOARDS, FPU CARDS,
FPU CHIPS, PMMU CHIPS & VRAM

LIFE TIME WARRANTY

M.C., VISA & DISCOVER
P.O.'S WELCOMED

1-800-662-SIMM (7466)
SERVING THE INDUSTRY SINCE 1963

DATA MEMORY SYSTEMS
508-683-2325 FAX 508-975-5232

CIRCLE 255 ON READER SERVICE CARD

Mac RAM Recycling



SELL your old / used memory

• 256K / 512K / 1-MB+ SIMMS •

We also recycle dead / junk Macs

RECYCLE: IT'S GOOD FOR BOTH THE
ECONOMY AND THE ENVIRONMENT

Call (815) 332-3315

P.O. Box 497, Cherry Valley, IL 61016

CIRCLE 256 ON READER SERVICE CARD

**MacUser Subscribers Are Responsive
Mail Order Buyers.**

MEMORY

Universal Type 30-pin 1MBx8 SIMM

Universal Type 30-pin 4MBx8 SIMM
(* Except 11lx)

11vi, 11vx - 8MB SIMM

11vi, 11vx - 16MB SIMM

11fx - 16MB SIMM

SE/30, Quadra 700 - 16MB SIMM

Quadra 800 - 8MB SIMM

Quadra 800 - 16MB SIMM (Fits all slots)

Quadra 800 - 32MB SIMM (Fits all slots)

11ci, 11cx, 11si, Quadra 900, 950 - 16MB SIMM

LC III, Centris - 8MB SIMM

LC III, Centris - 16MB/32MB SIMM

* CALL PowerBook 100 - 6MB

\$ 335.00

* CALL PowerBook 140, 170 - 4MB/6MB

\$ 219.00/329.00

CALL PowerBook - 160, 180 - 4MB/10MB

\$ 229.00/599.00

CALL PowerBook - 165C- 4MB/6MB

\$ 216.00/399.00

CALL PowerBook - 165C- 8MB/10MB

\$ 499.00/619.00

CALL PowerBook Duo 210, 230 - 4MB/8MB

\$ 169.00/345.00

CALL PowerBook 9600/2400 Fax/Modem

\$ 119.00

CALL PowerBook 14400/14400 Fax/Modem

\$ 279.00

CALL LaserWriter Pro - 8MB/16MB SIMM

CALL

CALL Quadra's, LC III, Centris VRAM - 256KB

\$ 19.00

CALL LC, LC II, 11vi, 11vx VRAM - 512KB

\$ 29.95

CALL Classic II, LC, LC III - 16/20MHZ FPU

\$ 49.00/59.00

Office Hours: Mon.-Fri. 7am to 5:30pm pst
Sat. 9am to 1pm pst

PRICES SUBJECT TO CHANGE WITHOUT NOTICE



CALL FOR UPDATED LOW PRICES AND NEW PRODUCTS

TEL. (818)855-5688 FAX (818)855-5687

TERMS: C.O.D. CASH, VISA OR MASTERCARD. COMPANY AND UNIVERSITY P.O.'S ACCEPTED UPON CREDIT APPROVAL.

414 CLOVERLEAF DR., UNIT B, BALDWIN PARK, CA 91706

MU0893

ALL PRODUCT NAMES, TRADEMARKS AND REGISTERED TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE COMPANIES.

CIRCLE 257 ON READER SERVICE CARD

MEMORY UPGRADES

MAC Xtra is STILL Beating Those High Costs!

MEMORY UPGRADES

1x8x80	50
1x8x70	57
2x8x80	78
2x8x70	80
4x8x80	146
4x8x70	148
4x8x80 II/IIx	180
4x8x70 II/IIx	182
16x8x80 (High profile)	639
16x8x70 (Low profile)	705
1x8x80fx	57
1x8x70fx	59
4x8x80fx	151
4x8x70fx	153
16x8x80fx	579
4MB (70 NS/60 NS)	167/199
8MB (70 NS/60 NS)	339/399
16MB (70 NS/60 NS)	619/825
32MB (60 NS)	2049

POWERBOOK MEMORY

PB100-6MB	425
PB140/170-4MB	195
PB140/170-6MB	289
PB160/180-4MB	209
PB160/180-6MB	269
PB160/180-8MB	505
PB160/180-10MB	599
PB165C/180C-4MB	235
PB165C/180C-6MB	339
PB165C/180C-8MB	529
PB165C/180C-10MB	625
PB200 210/230-4MB	215
PB200 210/230-6MB	284
PB200 210/230-8MB	355
PB200 210/230-10MB	515
PB200 210/230-12MB	905
PB200 210/230-20MB	1,649

ACCELERATORS

DAYSTAR Universal Powercache
030 33/33 w/fpu 345/435
030 40/40 w/fpu 519/605
030 50/50 w/fpu 649/759
Turbo 040 25/33 949/1,125
APPLIEDENGINEERING
 SE 25 mhz/ 25 w-FPU..189/289
 Classic 25 mhz/25 FPU 189/289

MODEMS

Supra 5014LC 14.4 Fax	165
Supra 2400	59
Supra V.32bis PB Fax	279
Supra 14.4 w/o sftwr	239
Zoom AMX 2400 bps	68
Zoom FXV 24/96 Fax	135
Zoom 14.4 v.32bis	275

MISC.

256K / 512K VRAM	27/49
TI Microlaser Upgrade	43
Tool Kit (Simms Inst.Kit)	7
Tool Kit (PowerBook)	6.50
LC I/II FPU	55
LC III FPU	69
Classic II FPU	55
Duo Dock/Performa 600 FPU	69
Color Classic FPU	48
Centris FPU	367

SYQUEST CARTRIDGES

SyQuest 44MB Cartridge	61
SyQuest 44/Preformatted	68
SyQuest 88MB Cartridge	93
SyQuest 88/Preformatted	100
SyQuest 105MB Cartridge	79



MEDIA

OPTICAL CARTRIDGES

128 MB (Samsung)	35
650 MB (Samsung)	99

FLOPPY DISKS

21 MB	22
-------------	----

BERNOULLI CARTRIDGES

40 MB (3 Pack)	284
90 MB (3 Pack)	390
150 MB (5 Pack)	495

SHIPPING

Overnight Delivery:\$7

UPS:\$6

International Orders
 Phone: (206) 455-0786

Fax: (206) 455-3448

24 Hours a Day

CALL: 1-800-553-4230

We accept MasterCard, VISA & Discover

Prices subject to change * Returns subject to approval and restocking fee

7:00 A.M. to 6:00 P.M. M-F • 9:00 A.M. to 4:00 P.M. Sat. • Pacific Standard Time

To enhance our identity and avoid confusion, MacEXPRESS is now MacXtra. We will honor all warranties given under our previous name.

MAC Xtra
 1075 Bellevue Way N.E., Suite 114 Bellevue, WA 98004

Phone: (206) 455-0786 Fax: (206) 455-3448



MEMORY UPGRADES

Welcome To The Jungle!

NEW!

PowerBook Memory for the 165C & 180C
4mg memory module Call
8mg memory module Call
10mg memory module Call

PowerBook Memory
2mg 140/170 memory module Call
4mg 140/170 memory module Call
6mg 140/170 memory module Call
4mg 160/180 memory module Call
6mg 160/180 memory module Call
8mg 160/180 memory module Call
10mg 160/180 memory module Call
4mg DUO 210/230 memory module Call
8mg DUO 210/230 memory module Call

Global Village PowerPort Modems
Bronze (24/96 S/R fax/modem) \$189
Silver (24/96 S/R fax/modem) \$369
Gold (14,400 S/R fax/modem) \$429

PSI PowerModems
PSI PowerModem I (24/96/48 S/R fax/modem) \$159
PSI PowerModem III (96/96 S/R fax/modem) \$349
PSI PowerModem IV (14.4/14.4S/R fax/modem) \$409

MAC MEMORY

1x8 - 80NS Call
1x8 - 70NS Call
2x8 - 70NS Call
4x8 - 80NS Call
4x8 - 70NS Call
4x8 - 80 FX Call
4x8 - 80 II/III Call
8x8 - 80NS Call
16x8 - 80 Call

72mm MODULE
4MEG Call
8MEG Call
16MEG Call

Centris/LC III

Quadra 800

POWERBOOK

Syquest Cartridges

44MB-\$62 88MB-\$96

Memory Direct Removable Drives

Memory Direct 44mb External (SQ555) \$395
Memory Direct 44mb Internal \$355
Memory Direct 88mb External (SQ5110) \$499
Memory Direct 88mb Internal \$479
Memory Direct 88c External (SQ5110C)* \$599
Memory Direct 88c Internal* \$569

*Your Memory Direct 88c will read and write, but not format, 44 mb cartridges.

REMOVEABLES

RASTEROPS

RasterOps 24XTV \$2519
RasterOps 24XL \$2059
RasterOps 24 \$1649
RasterOps paintboard Li \$849
RasterOps 8XL \$999

Displays
21" Platinum \$1024
20" Color \$2375
20" Color Multiscan Trinitron \$2675

HARD DRIVES

Fujitsu Fujitsu drives carry a FIVE Year Warranty.
425MB M2623FA 3.5" HH 9ms \$839 \$899
520MB M2624FA 3.5" HH 9ms \$889 \$949
1.2GIG M2266 5.25" FH 14ms \$1325 \$1425
2.0GIG M2652 5.25" FH 14ms \$2275 \$2375
2.4GIG M2654 5.25" FH 11ms \$2489 \$2589

Conner Conner drives carry a ONE Year Warranty.
85MB CP30080E3.5" LP 17ms \$194 \$254
170MB CP30170E3.5" LP 17ms \$274 \$334
212MB CP30200 3.5" LP 12ms \$359 \$419
520MB CP30540 3.5" HH 10ms \$880 \$939

Quantum EL5, IPS, PRO drives have a TWO Year Warranty.
God-drives have ONE Year Warranty

42MB EL542 19ms \$169 \$229
85MB EL585 17ms \$195 \$255
127MB EL5127 17ms \$249 \$309
170MB EL5170 17ms \$275 \$339
240MB LP5240 10ms \$355 \$445
425MB PRO425 9ms \$849 \$919
525MB LP5525 10ms \$895 \$969
700MB PRO700 10ms \$1179 \$1239
1.0GIG PRO1050 10ms \$1325 \$1389
1.2GIG PRO1225 10ms \$1499 \$1549

PowerBook Hard Drives
80MB Go*Quantum Hard Drive 17ms \$349 \$399
120MB Go*Quantum Hard Drive 17ms \$365 \$465
160MB Go*Quantum Hard Drive 17ms \$499 \$599

Daystar Digital

Power Cache 33 \$386 \$461
Power Cache 40 \$549 \$629
Power Cache 50 \$719 \$849
25 Mhz Turbo 040 \$1129
33 Mhz Turbo 040 \$1349
Universal FastCache \$169
ComboCache SI w/o math chip \$219
with math chip \$309
Equalizer LC w/o math chip \$179
with math chip \$249
Charger \$815

ACCELERATORS

SUPER MAC

Displays
SuperMatch 21 Two-Page (9771) \$2459
SuperMatch 20" New Trinitron (9731) \$2459
SuperMatch 20" Trinitron Trinitron (9752) \$2459
SuperMatch 20" Trinitron Trinitron (9752) \$2459
SuperMatch 17 Multimode (9730) \$1159
SuperMatch 17 Trinitron (9733) \$1059
Platinum 21 Two-Page Display (9761) \$999

Graphic Cards
ThunderStorm \$825
Spectrum/24 Series IV \$825
Spectrum/24 PDQ Plus \$1525
Spectrum/8*24 PDQ NuBus or Ili \$825
Spectrum 8/8 Series IV \$415

Quicktime Movie Making

VideoSpigot NuBus* / Ili* / LC \$379/339/259
Spigot & Sound NuBus* \$489
VideoSpigot Pro NuBus* / Ili** \$1079/1239
Spigot & Sound Pro NuBus** \$1079

*FREE Adobe Premiere 2.0 IE
**FREE Adobe Premiere 2.0 Full Version

External Drive Housings

Complete with SCSI Cable and Power Cord
Full Height \$145 Half Height \$85

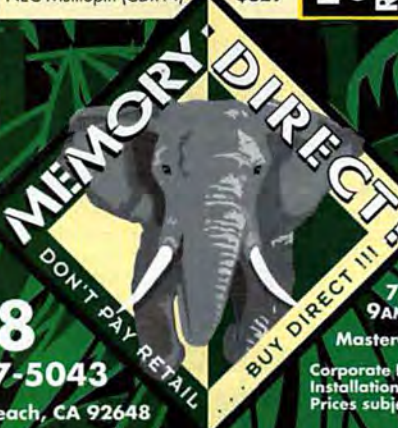
UMAX Scanners

UC-630 with Adobe PhotoShop™ v2.0.1 \$1099
UC-840 with Adobe PhotoShop™ v2.0.1 \$1299
UC-1200S with Adobe PhotoShop™ v2.0.1 \$2999

NEC CD-ROMS

NEC CD Express (CDR-25) \$405
NEC MultiSpin (CDR-74) \$629

NEC CD-ROM



PSI - ComStations

ComStation I (24/96/48 S/R fax/modem) \$139
ComStation IV (24/96/96 S/R fax/modem) \$359
ComStation V (14.4/14.4 S/R fax/modem) \$419

Global Village

TelePort (External Desktop Fax/Modem)
Bronze (24/96 S/R fax/modem) \$199
Silver (96/96 S/R fax/modem) \$369
Gold (14,400 S/R fax/modem) \$429

MODEMS

Mac SE (80000 PDS)

MC3SE Thick/Thin/10BaseT 32K \$209
MC+SEET Thick/10BaseT 32K \$159

SCSI Products

EN/SC10T 10BaseT, includes SCSI Cable \$249
EN/SCPBSCS Cable w/10B-30 & DB-25 to PB \$55
FriendlyNet Adapters (All models) \$89

10Base T Hubs

10THUB/12 10B-T Hubs w/12 10T, Thin/Thick \$489
AH1701 12 port Star Hubs w/SCSI/10B/10T \$909

EtherTalk to LocalTalk

AP1002 ApplePrint, Thick/Thin \$329
AP 101 ApplePrint, Thick/10BaseT \$329

Mac II Family & Performa 600

MC3NB Thick/Thin/10BaseT, 64K \$209
MC+IIE64 Thick/Thin, 64K \$159

Mac Ili & SE/30 (80330 PDS)

MC 3111S Thick/Thin/10BaseT, 64K, FPU Socket \$209
MC+30IE64 Thick/Thin/10BaseT, FPU Socket \$159

LC/LCII/Performa 400 (80330 PDS)

MC+LCII Thick/Thin, FPU Socket \$209
5 Year Warranty

ASANTE PRODUCTS

(800) 969-MD4U

800 969-6348

OR FAX YOUR ORDER (714) 847-5043

7911 Professional Circle, Huntington Beach, CA 92648

7AM to 7PM Monday thru Friday
9AM to 3PM Sat. - Same Day Shipping!

MasterCard • Visa • American Express • Discover

Corporate P.O.'s • Government P.O.'s • Educational P.O.'s
Installation instructions & tools available for most products.
Prices subject to change.

MEMORY UPGRADES

**Increase MEMORY for Less Money
Quadruple your SIMM Capacity**

SimmStack™ & SimmCycler™

Add SIMM Slots to your MAC

Stack either 30 Pin or 72 Pin SIMMS in your Mac LCIII or Centris

Save money on memory by using standard 30 Pin and/or 72 Pin SIMMS in your new:

- LCIII
- Centris 610 / 650 / 660AV
- LaserWriter Pro 600 / 630
- + many other Systems



SAVINGS

Beats the high cost of memory by utilizing existing memory in your new system. Enables you to recycle your old memory.

EASY TO INSTALL

Simply plug old SIMMS into SimmStack™ and plug into 72 Pin slot of your MAC. 100% compatible.

GUARANTEE

We stand behind our products.

All products carry a 30 day money back guarantee.

Call now to order:

(800) 209-7126

Sermex Technology, New York, NY • Tel: (212) 410-1597 Fax: (212) 410-0452

CIRCLE 260 ON READER SERVICE CARD

PERIPHERALS



100% SATISFACTION GUARANTEED...

THE MACINTOSH MEMORY AND PERIPHERALS EXPERTS

DRIVES

QUANTUM	INT/EXT	MICROPOLIS	INT/EXT	SEAGATE	INT/EXT
127MB ELS	\$185 / 250	560MB M2105	\$875 / 940	1.2 GB ST11200N	\$ 915/ 975
170MB ELS	\$190 / 250	765MB M2108	\$1020/1100	2.4 GB ST12400N	\$1975/1035
240MB LPS	\$245 / 305	1.2GB M2112	\$1005/1065	1.9 GB ST11950N	\$1795/1855
525MB LPS	\$625 / 685	1.5GB M1528	\$995/1085	2.4 GB ST12550N	\$2235/2295
700MB PRO	\$790 / 850	2.0GB M1548	\$1450/1550	3.4 GB ST43400N	\$2260/2360
1.0 GB PRO	\$895 / 955	2.4GB M1924	\$2050/2150	2.4 GB ST42400N	\$1780/1880
120MB GO	\$245 / 345	3.5GB M1936	\$2720/2830		
160MB GO	\$285 / 385				

CD ROMS	FUJITSU	INT/EXT	SYQUEST	EXT
Toshiba 3401 Ext. \$ 495.00	520MBM2624	\$629/ 689	88 MB Drive & Cart	\$ 445
NEC CDR-74 \$ CALL	1.2GB M2266	\$1070/1185	88 MBC-R&W44/88	\$ 485
NEC CDR-38 \$ CALL	1.2GB M2694	\$ 975/1035	105 MB External	\$ 599
SONY \$ CALL	2.1GB M2652	\$1830/1890	88 MB Cartridge	\$ 91
	2.4GB M2654	\$1710/1810	88 MB Cartridge	\$ 895

EDUCATION, CORPORATE, GOVERNMENT P.O'S WELCOME !!

All Fujitsu drives come with a 5 year manufacturer warranty.

MEMORY

COMPLETE LINE OF MAC MEMORY
CALL FOR COMPETITIVE PRICING

Mac Trend have been established since 1984

We provide the best service and best price to the public. We will beat any advertised price on normal stock items. So give us a call today...

ORDERS

800-546-1799

By fax: 714-828-5584

For Info: 714-828-6611

2675 W. Woodland Dr.

Anaheim, Ca 92801

Special Prices on Syquest Drives & Cartridges

All drives come with F.W.B. FORMATTING SOFTWARE. ALL DRIVES CARRY A 30 DAY MONEY BACK GUARANTEE. DEALER INQUIRY WELCOMED. RETURNS MAY BE SUBJECT TO A RESTOCKING FEE. ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NO REFUNDS ON SHIPPING. MUST OBTAIN A RMA BEFORE RETURNING ANY MERCHANDISE. MANUFACTURERS WARRANTIES: 1 YEAR: QUANTUM GO DRIVES, MANTO OFFICE, SEAGATE DRIVES AND CD ROMS; 2 YEARS: (3.5") QUANTUM DRIVES, SYQUEST DRIVES; 3 YEARS: FUJITSU DRIVES, MICROPOLIS DRIVES. LIFETIME WARRANTY ON ALL SIMM PRODUCTS.

CIRCLE 262 ON READER SERVICE CARD

PRINTERS

****LIMITED TIME OFFER****

The DEClaser 1152
Brand New, Factory Sealed

Only \$699

Mac User's Bottom Line Pick (9/93)

- Adobe Postscript Level 2
- 2 Megs of Ram
- Plug and Play Compatible for Mac
- AppleTalk, Parallel and Serial interfaces
- Autoport sensing for Mac and PC users
- Canon LX engine, used in HP IIIP and Apple NTR

- Other Specials:**
- Demo HP PostJet XL300\$1495
 - Demo HP ScanJet IIC\$795
 - Now HP 1.35 Gig external DAT drive\$550
 - Used Apple LaserWriter IITN\$795
 - New Mitsubishi 20" Color Monitor\$895
 - Optional Lower Cassette for DEC. HP\$99

Prices reflect a cash discount of 2.5%

800-688-5554
Allon Computer, Inc. Since 1989
Quality, Integrity, Reliability
28 Knight Street, Norwalk, CT 06851
CIRCLE 261 ON READER SERVICE CARD

SCANNERS

Get your share of the business.

Call your MacUser Marketplace account representative today at

800-825-4237



What separates our drives from the rest:

- Small Compact Case / Platinum Color
- Dual SCSI Ports
- Premium Quality SCSI Cable

All internal and external drives include:

- TOP RATED CasaBlanca Works Drive?

30-DAY MONEY BACK GUARANTEE
ALL HARD DRIVES HAVE A TWO YEAR WARRANTY, EXCEPT WHERE NOTED.

QUANTUM	INTERNAL/EXTERNAL
85mb.....	\$189/ \$239
105mb.....	\$159 / \$189
170mb.....	\$219 / \$269
240mb.....	\$279 / \$319
525mb.....	\$619 / \$669
700mb*.....	\$799 / \$849
1.0gig*.....	\$959 / \$999
1.2gig*.....	\$1,099 / \$1,149
1.8gig*.....	\$1,269 / \$1,299

*Five-Year Warranty

POWERBOOK EXPANSION

Quantum Go 160mb**Drive...\$299
Quantum Go 210mb**Drive...\$399
PowerBook External Kit.....\$ 99
Connectix CPU v2.0.....\$64
Symantec Norton Essentials for PowerBook.....\$89
Nest Software MacQuill W/P.....\$49

SYQUEST

44mb. SyQuest w/Cart.....\$369
88/44mb. SyQuest w/Cart.....\$499
105mb. SyQuest w/Cart.....\$699
Extra Cartridges 44mb. \$69 88mb. \$99 105mb. \$79

**One-Year Warranty



(800) A.S.K.-4.L.R.O.

Serving the Apple Community Since 1988

665 West Jackson St./Woodstock, Illinois 60098

SCHOOL AND GOV'T P.O.s ACCEPTED

CIRCLE 263 ON READER SERVICE CARD

PRE-PRESS

PRO PHOTO CD



• CUSTOM PC D SCANS (35mm to 4x5)

• KODAK & LEAF SCANNERS • LEAF

DIGITAL CAMERA BACKS • AGFA ARCUS

PLUS SCANNERS **800 735-1950**

PalmerPhotographic

2313 C Street Sacramento, CA 95816
CIRCLE 264 ON READER SERVICE CARD

Memory Expansion

Simms as low as \$29

Powerbook Memory starting at \$69
Give us a call for the best pricing on 1,2,4,8,16 and 32 meg SIMM modules for all Macs and 2, 4, 6, 10mb. Including PowerBook Memory. All memory from LRO is covered by a LIFE-TIME warranty!

APPLIED ENGINEERING

• TRANSWARP 6400 ACCELERATORS FOR ILL, CL, VCL, VI AND PERFORMA
25MHz *040 w/FPU - \$889 128k Cache \$139
33MHz *040 w/FPU - \$1099 128k Cache \$159
40MHz *040 w/FPU - \$1329 128k Cache \$175
• TRANSWARP 4300 ACCELERATORS FOR I.C., LCIII, LCIII, PERFORMA AND COLOR CLASSIC
33MHz *030 w/128k Cache - \$439 w/FPU \$529
40MHz *030 w/128k Cache - \$439 w/FPU \$559
• TRANSWARP 2300 FOR CLASSIC
40MHz *030 w/128k Cache, FPU and Memory Expansion Slots - \$559
• TRANSWARP 1300 FOR MAC SE
25MHz *030 - \$219 w/FPU \$329
40MHz *030 - \$329 w/FPU \$469
40MHz *030 w/128k Cache - \$399 w/FPU \$559

WE WILL MEET OR BEAT ANY NATIONALLY ADVERTISED PRICE!

QUANTITY DISCOUNTS AVAILABLE!

Technical Support: (815) 338-8746
Illinois Residents: (815) 338-8685
Fax: (815) 338-4332
International: (815) 338-8658

Prices subject to change without notice. ©1993 LRO CS

"NEW"	Int.	Ext.	Add'l. Cartridges	Frog Systems, Inc.
Go 40 2.5" Portable	149	199	44Mb @ 59	Boca Raton, FL
Rodime 210	249	299	88Mb @ 89	1-800-654-3764
Seagate 330	349	399		2-year warranty on new product.
Conner 540	599	659	"AS NEW" Ext.	30-day money back guarantee on all products.
Micropolis 1.2G	969	999	Frog 60	Cables + software incl.
Syquest 44 (incl. cart)	329	Frog 100	159	Visa + Mastercard accepted.
Syquest 88c (incl. cart)	469	Frog 210	199	

CIRCLE 265 ON READER SERVICE CARD

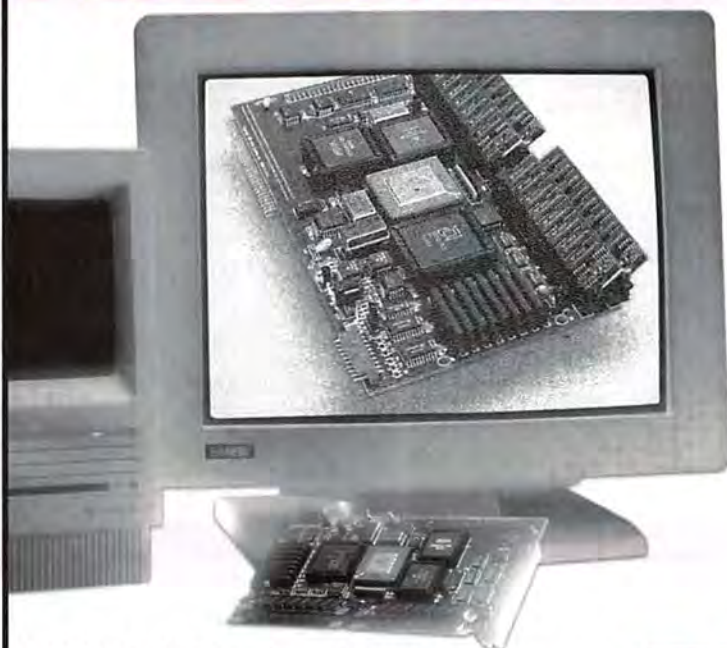
Each month MacUser subscribers advise an average 24 other people on brands to buy.

Call your MacUser Marketplace account representative today at

800-825-4237.

Source: MacUser 1992 Study of Microcomputer Product Ownership and Buying Plans.

PERIPHERAL 800 256-6581



68882 FPU Boards

20 MHz for Macintosh LC	59.00
20 MHz w/2 slots for Mac IIsi	119.00
20 MHz for Mac Classic II	59.00

Cache Cards, Etc.

128K Cache Card for LCIII and Performa 430	159.00
w/25 MHz FPU	239.00
IIsi 64K Cache Card	159.00
IIci 64K Cache Card	125.00
IIsi 2-slot Card and 68882	119.00

Math Coprocessors

68882 16 MHz FPU	55.00
68882 20 MHz FPU	59.00
68882 25 MHz FPU	79.00
68882 33 MHz FPU	85.00
68882 50 MHz FPU	119.00
68881 16 MHz FPU	45.00

Miscellaneous

T.I. MicroLaser 1 MB	49.00
Virtual 3.0	69.00
Mac Classic 1 MB Board	75.00
68851 16MHz PMMU	89.00
if requested, MODE 32 software included free w/PMMU	
Mac Portable 3 MB Card	425.00
Mac Portable 4 MB Card	479.00

Due to volatility in the market all prices and availability are subject to change without notice.

Memory for the new Macs!

LCIII, CENTRIS(all), QUADRA 800/840AV

4 Megabyte
8 Megabyte
16 Megabyte
32 Megabyte

**CALL FOR
CURRENT
PRICING ON
ALL MODELS**

Standard SIMMs

1 Megabyte
2 Megabyte
4 Megabyte
8 Megabyte
16 Megabyte

**CALL FOR
CURRENT
PRICING
ON ALL
SPEEDS**

Video RAM

4 Bit to 8 Bit Upgrade (Mac II/Ix cards)	24.00
256K Quadra 700/900 VRAM	27.00
256K Quadra 950/0800 VRAM	29.00
256K Centris/LC III VRAM	29.00
512K VRAM for LC, LCII, IIfx, IIsi, DuoDock, and Performas	49.00

PowerBook Memory

	100	140/170	160/180	165c/180c	210/230
2 MB	CALL	CALL	---	---	---
4 MB	CALL	CALL	CALL	CALL	CALL
6 MB	CALL	CALL	CALL	CALL	---
8 MB	---	---	CALL	CALL	CALL
10 MB	---	---	CALL	CALL	---

**TOLL
FREE
TECH
SUPPORT**

**LIFETIME
WARRANTY
ON ALL
MEMORY
PRODUCTS**

ImagePro and Quik30

The ImagePro is a 68030 based accelerator and video combo board including math coprocessor. It can be used with your 15" or 19" monitor or ours! The Quik30 is identical to the ImagePro less the video options.

	For Mac SE	15" ImagePro System	19" ImagePro System
ImagePro			
25 MHz	505.00	795.00	935.00
33 MHz	635.00	925.00	1,065.00
50 MHz	695.00	985.00	1,125.00
Quik30			
25 MHz	355.00	N/A	N/A
33 MHz	485.00	N/A	N/A

*ImagePros and systems, add \$90.00 to above prices for Mac Plus/Classic
*Quik30s, add \$40.00 to above prices for Plus, \$95.00 for Classic

DiiMOCache 50 MHz Accelerator

Speed up everything you do by up to 400% with the DiiMOCache 50MHz 68030 Accelerator.



Awarded 4 1/2 Mice from MacUser's April 1993 Accelerator Review, the DiiMOCache Accelerator outperforms not only DayStar's PowerCache 50MHz but also most 68040 25MHz accelerators and costs less! The DiiMOCache runs on the IIci, IIfx, IIsi, SE/30, II, IIfx, IIcx, and the Performa 600.

Call for adapter prices.

	w/o FPU	w/FPU
DiiMOCache 50 MHz Accelerator	589.00	669.00

**68040
PROCESSOR
WITH FPU
FOR CENTRIS
610 AND 650
\$369.00**

DayStar

	w/o FPU	w/FPU
PowerCache 33MHz	345.00	420.00
PowerCache 50MHz	635.00	749.00
Turbo '040 25MHz	785.00	955.00
Turbo '040 33MHz	875.00	1129.00
Turbo '040 40MHz	N/A	1649.00
"Charger" for Photoshop		799.00
FastCache 128K Quadra		CALL

ORDER BY 6:30 PM CST FOR SAME DAY SHIPPING*
OVERNIGHT DELIVERY FROM \$8.00 *some restrictions apply

PERIPHERAL OUTLET

327 East 14th, PO Box 2329 • Ada, Oklahoma 74820
International ☎ 405/332-6581 FAX ☎ 405/436-2245



PERIPHERALS

MEGAHAUS
HARD DRIVES

MegaHaus external enclosures feature external, ID select, external termination, 2 SCSI connectors, Metal case. SpotOn software features disk caching, password protection, and a wide variety of drive icons.



ATTENTION LC & PERFORMA OWNERS!
The hard disk you have been waiting for is finally here. A 1 Gigabyte drive that will fit inside your computer!

- HIGHEST CAPACITY AVAILABLE!
- 1" HIGH DRIVE
- 5400RPM
- Made by **IBM**
- 1052MB
- 8.6ms
- 512KB Buffer
- 800,000 MTBF (That is more than 91 years!)

Only \$1149

For an internal kit, or \$1199 for an external.



- Our 6th year selling Quality Drives at Incredible prices
- 30 Day Money Back Guarantee
- Lifetime technical support
- 24 Hour turn around 1 Year Replacement Policy
- Advanced Replacement Available
- Discount freight charges

All of Your Storage Needs Under One Roof!

MegaHaus offers unbeatable value! We ship 99% of our orders within 24 hours.

Hard Drives

Includes: SpotOn Formatting Software, Cables

Capacity	Speed	RPM	Brand	Warranty	Internal	External
170MB	17ms	3600	Quantum	2 Years	\$185	\$249
240MB	16ms	4300	Quantum	2 Years	\$235	\$295
240MB	14ms	4500	Fujitsu	1 Year	\$425	2.5" for Powerbook
340MB	15ms	3600	Maxtor	2 Years	\$335	\$399
340MB	13ms	4011	Conner	2 Years	\$339	\$405
520MB	12ms	4400	Fujitsu	5 Years	\$609	\$679
525MB	10ms	4500	Quantum	2 Years	\$585	\$649
540MB	10ms	5400	Conner	2 Years	\$609	\$679
540MB	8.5ms	6300	Maxtor	3 Years	\$755	\$825
560MB	10ms	5400	Micropolis	5 Years	\$629	\$699
700MB	10ms	4500	Quantum	5 Years	\$739	\$799
1050MB	10ms	4500	Quantum	5 Years	\$859	\$929
1050MB	10ms	5400	Micropolis	5 Years	\$899	\$969
1080MB	9.5ms	5400	Fujitsu	5 Years	\$879	\$949
1225MB	10ms	4500	Quantum	5 Years	\$959	\$1029
1370MB	10ms	5400	Conner	2 Years	\$979	\$1049
1600MB	9.7ms	5400	DEC	5 Years	\$1139	\$1219
1750MB	10ms	5400	Micropolis	5 Years	\$1169	\$1249
2060MB	12ms	5400	Fujitsu	5 Years	\$1529	\$1629
2100MB	11ms	5400	Micropolis	5 Years	\$1659	\$1759
2145MB	8ms	7200	Seagate	5 Years	\$2199	\$2299
3020MB	11ms	5400	Micropolis	5 Years	\$2159	\$2259

We sell the complete lines of all brands shown.

Syquest Drives

Includes: Formatting Software, 1 Cartridge, Cables

Capacity	Model	Speed	Internal	External
44MB	SQ555	20ms	\$345	\$319
44 / 88MB	SQ5110C	20ms	\$455	\$475 Sale!
105MB	SQ3105	14.5ms	\$455	\$475 Sale!
Media Qty 1 / 5 44MB \$63 / \$309 88MB \$96 / \$449 105MB \$57 / \$279				

CD-ROM Drives

Includes: Driver Software with Music play software, cables, 1 year warranty. All CD Drives are Kodak multisession Photo CD Compatible.

Brand	Speed	Transfer	Type	Internal	External
Teac	265ms	335KB/sec	Single Disk	\$379	\$419
Toshiba	200ms	330KB/sec	Single Disk	\$439	\$469
Pioneer	270ms	612KB/sec	6 Disk Changer	N/A	\$1219

Tape Drives

Includes: Retrospect Backup Software Version 2.0, 1 Tape, Cables, and a 1 year warranty

Capacity	Type	Brand	Speed	Internal	External
250MB	QIC 150	Archive	7MB/min	\$479	\$499
2Gig	DAT	Archive	11MB/min	\$919	\$949
4-8Gig	DAT	Archive	88MB/min	\$1209	\$1229
4-8Gig	DAT	Hewlett Packard	42MB/min	\$1179	\$1199
Tapes Qty 1 / 5 DC6250 \$29 / \$120 90 Meter DAT \$17 / \$75 DAT Cleaning Tape \$19					

Optical Drives

Includes: SpotOn Formatting Software, 1 Media, and Cables

Capacity	Speed	Brand	Feature	Internal	External
20MB	65ms	Insite	Floptical	\$319	\$349
650MB	27ms	Hewlett Packard	MultiFunction	N/A	\$2179
1.3Gig	19ms	Hewlett Packard	MultiFunction	N/A	\$2799
1.3Gig	19ms	Maxotix Tahiti III	MultiFunction	N/A	\$2999
Media Qty 1 / 5 20Meg \$23 / \$95 128Meg (Verbatim) \$35 / \$173 650Meg (Verbatim) \$89 / \$435 1Gig \$189 / \$929 1.3 Gig \$149 / \$695					

FUJITSU *Drive* **MO 128**
128MB Rewritable Optical
Fastest Available!
30ms, 3600RPM, 256K Buffer
Smallest Available!
1.4" x 5.1" x 8.2"



Only \$919
Includes: Drive, vertical stand, 1 Disk & Driver Software.
Internal \$899

Maxtor
Internal 345MB \$335
14ms
External 64K Buffer \$399
3600rpm
2 Year Warranty

1-800-786-1191

Fax (713)333-3024

Prices and specifications subject to change.
All trademarks are registered trademarks of their respective companies.
Returns must be in new condition, and may be subject to restocking fee.

Business Hours:
Mon. 8am - 8pm
Tue thru Fri. 8am-7pm
Sat. 9am-3pm C.S.T.

No surcharge for credit card or C.O.D.



MEGAHAUS
HARD DRIVES

1110 NASA Rd. 1 #306
Houston, Texas 77058

SOFTWARE/BAR CODING

For those wanting **BAR CODES THAT SCAN!**

For Barcode Generation

MacBARCODA

Contains all the vital features for safe, quality bar code production and is compatible with all major page-makeups and graphics software.



For Label Printing

label designer

An easy-to-use, complete Post-Script label design & print package. Any label size and sheet layout including text, bar codes, PICT & EPS graphics.



Computalabel

Give us a call. You will find our staff both informative and helpful!

Computalabel Inc. 28 Green Street, Newbury MA 01951 Tel 800-289-0993 Fax 508-462-9198

CIRCLE 269 ON READER SERVICE CARD

CAD/CAM

CADMOVER® - Release 3.5

New Formats, New Features, & More User Control

- New Claris Cad Reader
- Read MicroStation, Schema & Pro Engineer via EPSF
- DXF reader is faster & reads larger files than ever
- Check your drawings with the new Pan & Zoom Feature

So many improvements...so little space...
so call for more information.



Now With Free
ViewPICT™ Utility
Call 703. 532. 0213

KANDU
Software Corporation

CIRCLE 267 ON READER SERVICE CARD

CD-ROM

It's FREE! Absolutely, positively,
totally FREE! No strings!
No commitment! No shipping!
No handling! No nothing!
FREE! FREE! FREE! FREE!

It's your FREE introductory issue of

Metatec's **NautilusCD**™

The Multimedia Magazine™ on CD ROM

This is not a misprint. It's an honest-to-gosh offer for a FREE introductory issue of NautilusCD, The Multimedia Magazine on CD ROM.

NautilusCD is the premier showcase of multimedia creativity. Our contributors are multimedia's superstars, wizards who can make your computer screen flash to life with moving pictures...play music or sing for you...dazzle your eyes with 3-D graphics...and even talk to you! It's an experience not to be missed. You'll get a subscription offer with your FREE issue, but no more will come—and neither will any bills—until you tell us "OK, I've gotta have it!" So call for your FREE issue now!

To order call toll-free 1-800-448-2323

Available in Macintosh and Windows versions. CD ROM drive required.
Limited Time Offer. One CD ROM per inquiry. International callers-1 614 766-3165

NautilusCD The Multimedia Magazine
7001 Discovery Boulevard, Dublin, Ohio 43017

CIRCLE 271 ON READER SERVICE CARD

SYNEX

BAR CODE PRO™

Desk accessory, Quark™ XTension or PageMaker™ Addition creates color PostScript™ graphics. An easy-to-use solution, Bar Code Pro™ can be used for packaging design, labeling, libraries, inventory, or publishing. Versions: UPC, 39, EAN, ISSN, ISBN, 128, POSTNET/FIM, Codabar, MSI/Plessey, ITF

(800) 447-9639

NOW IN COLOR

Fax: (718) 768-3997

"Bar Code Pro™ installs in under 60 seconds and takes less than five minutes to master!"
— MacWorld

CIRCLE 270 ON READER SERVICE CARD

BAR CODE FONTS

- 60 PostScript Type 1 Bar Code Fonts – Just like using Times or Helvetica
- Use in any program with a font menu
- Code 39, UPC/EAN, 128, 12of5, PostNet
- Not HyperCard Dependent
- Simple, Easy-to-Use, Plug & Play
- Create 1,000 incremented bar codes in 5 seconds using Sequencer™ DA
- Generate film masters in Quark, etc.
- \$199 includes our DA & All Fonts
- 30 day money back guarantee
- Call Toll Free in the USA or Canada

WORTHINGTON DATA SOLUTIONS

800-345-4220 or 408-458-9938

Bar Code Fonts and Readers

PrintBar fonts available for:
Code 39 • UPC/EAN/ISBN • POSTNET/FIM • Interleaved 2 of 5

★★★★½

"This is the best product of its kind, and it's reasonably priced too."
— MacUser

- Creating precision bar codes is as easy as using a font!
- 90-day money back guarantee!
- Discount when bundled with bar code reader.

"PrintBar is great! I use it for every book cover designed!"
Jean Seal, Art & Design Director, Addison-Wesley Publishing

800 232-7625
916 672-0244

Bear Rock TECHNOLOGIES

4140 Mother Lode Dr., Suite 100
Shingle Springs, CA 95682, FAX 916 672-1103

Fonts

Russian Font

A5B A5B A5B A5B

Crafted by Russian Fontographers

Version 2.0 now released

Supports Standard Apple Encoding

Bersearch Information Services

1-800-851-0289
(303) 674-8875
(303) 674-1850 FAX

ADOBE™

Typefaces For Less

Adobe List	Typical Mail Order	F in a F Price
\$370	\$249	\$228
\$275	\$189	\$168
\$185	\$129	\$114
\$145	\$99	\$84
\$95	\$65	\$54

*3 Overnight Delivery
Call for Free Catalog

Fonts in a Flash™

(800) 435-1303
9:30-4:00 Central, M-F

CIRCLE 272 ON READER SERVICE CARD

CIRCLE 273 ON READER SERVICE CARD

GRAPHICS

NEW! MacGallery II
Over 500 beautifully detailed images and a **FREE** copy of Amazing Paint!

only \$49.95

CALL FOR INFO!
800-876-5665

Dream Maker Software
925 W. Kenyon Ave. #16 • Englewood, CO 80110
303-762-1001 • FAX 303-762-0762

CIRCLE 266 ON READER SERVICE CARD

MAPART
MAPS FOR GRAPHIC DESIGN!

World • Continents • Countries • 25 Major US Cities
US States with Interstates, Counties & 3-digit Zips
Globes • Detailed Coastlines, Islands, Lakes, Rivers

Fully Editable!
Each line, area, and name is an object that can be individually selected and modified!

Call for Your **FREE** Info By Mail or FAX:
800-334-4291

CARTESIA
Box 757, Lambertville, NJ 08530
609-397-1511 • 24 hr FAX: 609-397-5724

CIRCLE 267 ON READER SERVICE CARD

Perfect Body Parts. 99¢ Each.

MediClip... the first complete medical anatomy and art library for your MAC or IBM.

- Available in high quality EPS and all major formats
- 3 volumes of 100 images for only \$99 each

1-800-998-8705

MediClip
Outside continental U.S. call 1-310-315-3479
This offer not valid through retail outlets.

CIRCLE 268 ON READER SERVICE CARD

Reach those who count!
Advertise in MacUser and reach business buyers making Mac purchasing decisions. Nearly 8 in 10 MacUser subscribers are directly involved in their organizations' decisions to acquire Macintosh computer products.

For information on how you can advertise, call your MacUser Marketplace account representative today at:
800-825-4237

MEDICAL/DENTAL

GUARANTEED upgrades for NEW Federal Regulations - FREE

CONTROL YOUR PRACTICE IN THE NEW CLINTON ERA

Prepare for *managed competition* with **Front Office™ Practice Management System and The Macintosh™ Computer**

- Electronic Claims processing
- Paper Claims, Monthly Statements
- Cycle Billing, Insurance Follow-Up
- Accounts Receivable Aging
- Toll Free & Modem Customer Support
- Software Customization Available
- Upgrades to comply with New Federal regulations.

AS LOW AS \$155/MO.
Delivery, Installation, technical support, and implementation included.

Savvy practice management will be the key to separating the "haves" from the "have nots" with the **NEW HEALTH ALLIANCES** — Larry Womack M.D., TN
Front Office™ outperforms any other Medical Practice Management System!

Call for Free Demo and Information
1-800-622-1700

FRONT OFFICE™
PRACTICE MANAGEMENT SYSTEMS

3231 Cheshire Drive, San Jose, California 95118, U.S.A.

CIRCLE 289 ON READER SERVICE CARD

MUSIC/MIDI

Music For The Mac
The full scale of Products

- From instructional music software, like our own Compose Yourself; to the intricacies of Hard Disk recording.
- Authorized dealer for Coda, Digidesign, E-MU, Mark of the Unicorn, Opcode, Panasonic, Ramsa, Roland, Steinberg-Jones and more.

Expert advice before you buy, and full tech support after you purchase!

Call the Experts at:
1-800-MAC-BEAT or
505-473-4929 fax: 505-473-4647

Free Catalog Available!

Mac BEAT
1314 Rufina Circle A4
Santa Fe NM 87501

CIRCLE 290 ON READER SERVICE CARD

SCIENTIFIC

RockWare
Scientific Software

For the largest selection of specialized and hard to find scientific software applications send for your **FREE CATALOG**

Over 350 programs for PC, Mac, UNIX, Windows & more!
RockWare 4251 Kipling St., Suite 505
Wheat Ridge, CO 80033
Catalog Requests & Sales (800) 775-6745
(303) 423-5645 • FAX (303) 423-6171

CD-ROM

EDUCORP
CD-ROM
SPECIAL SAVINGS!

Save up to 50%

5 great interactive multimedia titles. Quantities limited to stock on hand.

L1775	Amanda Stories	\$29.95
L1771	Baseball's Greatest Hits	\$39.95
L1347	Beethoven's Sym No. 9	\$49.95
L1774	1 Photo to Remember	\$19.95
L1777	Mozart/Dissonant Qrt.	\$24.95

1993 Grolier MM Encyclopedia only \$99
Order now! Offer good only until December 31, 1993.
1333U

Atlas Fun Pack
3 CDs for only \$59.95
Explore the world with World Atlas and U.S. Atlas and relax with a FREE Lucas Game Pack II (3 new, animated games - Monkey Island, Monkey Island II, Indiana Jones and the Fate of Atlantis).
84 Atlas Fun Pack \$59.95

Buy 2 Get 1 FREE!
Buy any two of these titles and get the third one FREE! (Good 9/93 thru 12/93. Good in U.S. only. Call for details.)

50061	Americans in Space	\$49.95
50094	Astrology Source	\$49.95
50069	Better Homes and Gardens Healthy Cookbook	\$49.95
50068	Nat'l Parks of America	\$49.95
50089	Max the Dragon	\$49.95

Reference Bundle
3 CDs only \$79.95** \$81
Grolier's M/M Encyclopedia, World Atlas, & Mayo Clinic: Fam. Health Book.
**With the purchase of a CD-ROM drive from EDUCORP. For drives and more bundles turn the page.

Over 1000 Games
1000+ color and black/white PD/Shareware games for all ages and interests!
1611 Game Room 3.0 \$49.95

1 Gig of Software as low as \$99
2 CDs, 1.1+ gig. The best PD/Shareware software available! System 7 optimized.
1300 Shareware 8.0 \$149.00
\$99 w/ drive purchase from EDUCORP

Turn the page for more great savings and products.

1-800-843-9497

CIRCLE 291 ON READER SERVICE CARD

CD-ROM

Join the CD-ROM Revolution!

Buy a CD-ROM drive from EDUCORP,
and add a bundle up to 90 days after purchase.

***FREE EXPRESS (2 DAY) SHIPPING!**

Free Express (2-Day) shipping only on
products in this ad marked with *.

All drives are ready to run and are Kodak
Photo CD multisession compatible. Includes
driver software and choice of SCSI cable.

CD-ROM DRIVES

AT = Access Time, DTR = Data Transfer Rate

CD Tech-T3401* \$579

#1824 — AT-200ms, DTR-327k/sec

Texel DM5024 \$439

#1815 — AT-265ms, DTR-300k/sec

Texel DM5028 \$489

#5028 — AT-240ms, DTR-335k/sec

Procom CD-MX* \$549

#1833 — AT-200ms, DTR-327k/sec

Pioneer DRM604X \$1299

Mac User. Quad-speed, 6 disc changer.

Multisession compatible.

#978 — AT-290ms, DTR-612k/sec

- 1. Uses Toshiba XM-3401 mechanism.
- 2 FREE CDs: *America Alive* and *Multimedia HANDisc*.
- † FREE Musical Sampler CD, Apple Photo CD Access software & QuickTime 1.5. \$50 off the EDUCORP Shareware CD (#1300) w/ any drive or drive bundle you purchase from EDUCORP.
- Plus a FREE EDUCORP CD Sampler with every drive purchase from EDUCORP.

CD-ROM Drive Bundles

Bundles A & B include a drive, Labtec speakers
with A/C adapter, stereo headphones, choice
of SCSI cable, driver software and
power supply and up to 15
popular titles!

CD-ROM Drive Bundle B

- | | |
|----------------------------------|----------------------|
| 1. World Atlas..... | Retail Value \$79.95 |
| 2. Grolier M/M Encyclopedia..... | 395.00 |
| 3. U.S. Atlas..... | 59.95 |
| 4. U.S. History..... | 395.00 |
| 5. Think for Yourself..... | 249.00 |
| 6. The View from Earth..... | 79.95 |
| 7. Dict/Living World 3.0..... | 149.00 |
| 8. Mayo Clinic Fam Hlth Bk..... | 99.95 |
| 9. Shakespeare..... | 19.99 |
| 10. Sherlock Holmes..... | 19.99 |
| 11. Audubon's Birds/America..... | 49.99 |
| 12. Audubon's Mammals..... | 49.99 |
| 13. EDUCORP CD Sampler..... | 9.95 |

Texel 5024 Bundle B, \$659, #E1815

Texel 5028 Bundle B, \$699, #E5028

Procom Bundle B, \$759, #E1833

CD Tech Bundle B, \$769, #E1824

2 FREE multimedia titles with CD Tech Bundle:
America Alive and *Multimedia HANDisc*.

CD-ROM Drive Bundle A

- | | |
|----------------------------------|-----------------------|
| 1. Color It! 2..... | Retail Value \$299.95 |
| 2. Desert Storm..... | 39.95 |
| 3. Grolier M/M Encyclopedia..... | 395.00 |
| 4. The Orchestra..... | 79.98 |
| 5. Publish It! Easy 2..... | 199.95 |
| 6. S. Holmes Con. Det I..... | 69.95 |
| 7. World Atlas..... | 79.95 |
| 8. EDUCORP CD Sampler..... | 9.95 |

(2 - Manual, clip art, & photos not included.)

Texel 5024 Bundle A, \$609, #D1815

Texel 5028 Bundle A, \$649, #D5028

Procom Bundle A, \$709, #P1833

CD Tech Bundle A, \$729, #D1824

2 FREE multimedia titles with CD Tech Bundle:
America Alive and *Multimedia HANDisc*.

Optional Bundles

Save a Bundle! You must purchase a CD-ROM drive or drive bundle from EDUCORP.

Reference Bundle — 3 CDs \$79.95

SAVE \$494.95, #5B1 (Total retail value \$574.90)

- | | |
|---|-----------------|
| 1. Grolier's Multimedia Encyclopedia..... | Retail \$395.00 |
| 2. World Atlas..... | 79.95 |
| 3. Mayo Clinic Family Health Book..... | 99.95 |

Learning Bundle — 3 CDs \$59.95

SAVE \$140.00, #5B2 (Total retail value \$199.85)

- | | |
|--|----------------|
| 1. Amazing Space Shuttle..... | Retail \$49.95 |
| 2. Multimedia CIA World Fact Book..... | 29.95 |
| 3. The Animals!..... | 199.95 |

Custom Bundles — 3 CDs for...

• 3 CDs for \$39.95 • 3 CDs for \$69.95 • 3 CDs for \$124.95

Choose from 7 great titles.

- | |
|-----------------------------|
| B36. Survey of Western Art |
| B37. 12 Roads to Gettysburg |
| B49. Animal Alphabet |
| B50. Whales and Dolphins |

• 3 CDs for \$49.95

Choose from 10 great titles.

- | |
|---------------------|
| B1. World Atlas |
| B4. Desert Storm |
| B7. World Fact Book |
| B26. The Orchestra |

Choose from 16 great titles.

- | |
|--------------------------------|
| B6. Beethoven's String Quartet |
| B14. Lucas Game Pack II |
| B27. Sports Ill. Almanac |
| B28. Word Tales |
| B29. View from Earth |
| B30. The Animals |
| B35. Dict / Living World 3.0 |
| B41. Space Shuttle |
| B43. Encyclopedia of Life |
| B42. LOCIS: Music |
| B44. Pro Photo Collection - MR |
| B45. Lunisus |

Choose from 9 great titles.

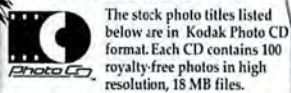
- | |
|-------------------------------|
| B2. Grolier MM Encyclopedia |
| B31. Guinness Disc of Records |
| B32. Mayo Clinic Health Book |
- More titles available for each bundle. Call or FAX for more info.
More CD-ROM drives and bundles available. Call or FAX for more information.

Recordable
CD-ROM drive
now available

440 CD Titles in Stock-New Lower Prices

Royalty
FREE

Stock Photos



The stock photo titles listed
below are in Kodak Photo CD
format. Each CD contains 100
royalty-free photos in high
resolution, 18 MB files.

50048 Best of People in Business*

Over 100 images of people working and in business situations, also includes equipment.

1297 Creative Backgrounds and Textures Hi Res*

200 diverse color photos of textures, sunsets, skylines, effects, nature and more!

1444 Professional Photography Collection Hi Res*

100 images of people, places and things.

50067 Donatelli v.1 & 2

High Res*.....99.95
100 full color photos of 20 lovely female models posing in lingerie and swimwear.

Published by
Gazelle Technologies, Inc.

Photo CD symbol is a trademark
used under license.



Media Tools

1677 ClipTime v.1.....\$79.95

1919 ClipTime v.2.....199.00
Published by ALPHA Technologies, Inc.

1274 Trick of Light.....79.95

100 high res backgrounds w/ lighting effects.

2079 Loops.....79.95

100 original music tracks in 3 formats.

2080 Faces Plus.....99.95

Anti-aliased screen fonts for multimedia projects.

Published by REMEDIA

1659 WraptureReels One.....179.95



550 MB of broadcast-quality digital video with animated textures and looping video clips.

Published by Form and Function

1582 Sound/FX*.....79.95

225 sound effects.

Published by Gazelle Technologies, Inc.

DTP

Wraptures - Beautiful, seamless, tileable PICT textures for multimedia and DTP projects.

86 Wraptures One & Two \$159.95

1990 Wraptures Two (Over 150).....95.00

1653 Wraptures One (Over 130).....95.00

50050 Page Overtures One.....95.00

100 high res, full page photo textures.

Published by Form and Function

1680 GraphTec 2.0*.....\$49.95

Over 800 professionally designed, editable, color & black-and-white EPS images. Animals, backgrounds, borders, business, food, holidays, people, toys, tools and more.

1408 Design Toolkit*.....99.95

A premier collection of over 1500 editable B/W TIFF and EPS design elements that add polish to your layouts.

Published by Gazelle Technologies, Inc.

ZooGuides Series.....\$49.95 ea

Each volume provides full biological information on particular animal groups. QuickTime video, animation and narration.

2081 Butterflies of the World

1210 Whales and Dolphins

1275 Mammals of Africa

2078 Animal Alphabet.....\$49.95

A colorfully animated, interactive multimedia CD-ROM that helps children learn letters and words.

Published by REMEDIA

2089 Lunisus.....\$59.95

Red hot, 3D, arcade action the future. Virtual reality environments, revolutionary movie technology, original sound tracks and talking CyberPuppets!

Published by Cyberflex

1467 Better Dead.....\$59.95

Enter a strange and ominous breathtaking, photorealistic, 3D world where you seek out and implement humankind's one last, desperate hope for survival. An interactive adventure/saga.

Published by ARTSector One, Inc.

CD-ROM

CD-ROM Showcase

We'll beat any advertised price on CD-ROM products!
Please call for current prices.
(Some restrictions apply)

1450 Instant Buttons & Controls.....\$149.95

For Macromedia Director users! Save time and money, just copy and paste. Over 500 professionally designed and fully scripted buttons and controls in 8-bit and 32-bit color PICTs for all your multimedia needs. Use them to create interactive kiosks, presentations, training programs, entertainment software and more!

Each button even has its own 'click' sound. Includes panels, dials, sliders, arrows and more. Sold worldwide to Northrop, NASA, Apple, Amgen, Seiko and others.
Published by Statmedia

1385 Right Images.....\$159.95



"The best and most comprehensive commercial collection."

— Publish

STARS, PLANETS, ASTRONAUTS, NEBULAE AND SHUTTLES!
Over 160 royalty-free 24-bit and 8-bit color PICTs and 8-bit grayscale PICTs. FREE Adobe Photoshop tryout program and browser catalog included.

Published by
Tsunami Press

50043 Madness of Roland.....\$44.95

Winner of the QuickTime Movie Festival. The world's first interactive multimedia novel. Based on the legend of the *Paladin Roland*, a knight in the service of Charlemagne. Roland's illicit love for the enchanting sorceress Angelica shatters his reason and propels him into a dark and raging world of madness and a struggle against death. Color graphics, animation, QuickTime video, sound effects, narration and music transport you to the world of Charlemagne's France.



Published by Hyperbole Studios

50080 Manhole Masterpiece Edition.....\$34.95

Explore a new, color world beyond the manhole! A place where you talk to the animals and every hallway leads to an

adventure in sights and sound! All new images, characters, places to visit and music! Black-and-white version included.

1306 Manhole.....\$29.95

Explore the original black-and-white world beyond the manhole.

1339 Cosmic Osmo.....\$49.95

A critically acclaimed universe of wonder and magic. Zoom through the seven planets of Osmo's solar system and meet dozens of wonderful characters! Over 1000 B/W graphics, animation, plus music.

Published by CYAN

50074 Greg LeMond's Bicycle Adventure.....\$49.95

Facts, movies, pictures, music and sound combine to let you enjoy the adrenaline rush in this fun and informative cycling CD-ROM. World-renowned cyclist, Greg LeMond emphasizes environment, plus provides safety tips, bicycle repair tips and bicycling tutorials.

50079 Golf: WhoWhatWhyWhenWhere.....\$52.95

Putt around an interactive multimedia tour of the who, what, why, when and where of golf. Plus get a FREE copy of Lee Trevino's Priceless Golf Tips video!

Published by Eden Interactive

50044 Airbrush Portfolio v.1.....\$79.95

Over 100 royalty-free, 24-bit high res, professional airbrush illustrations in Photo CD format. Categories range from sci-fi & fantasy to photorealistic action and technical images. An ideal resource for multimedia, animation, desktop publishing and morphing.

Published by Ocean Graphics



967 Discus.....\$24.95

968 Brackets (2 per set).....\$15.00

Discus is the ideal storage unit for your CD-ROMs and audio CDs. Available in black, red or white, it holds 20 CDs in their jewel cases or caddies. It's made of a light weight aluminum that has been

deburbed to prevent scratches. Optional black brackets make stacking or wall mounting easy. Measures 17" w x 4" h x 6" d.

Manufactured by Gruppe Design



FREE CATALOG!

If you don't see the CD-ROM you want, we probably have it! Call for your free catalog. (Foreign customers send \$4.00 postage & handling)

Order toll-free in U.S. & Canada.



1476 Hell Cab.....\$67.95
1849 Funny: The Movie.....\$27.95
1948 Sports Ill. Almanac.....\$49.95
1963 Murmurs of Earth.....\$43.95
1443 New Family Bible.....\$34.95
Published by Time Warner Interactive Group

50075 Xplorations.....\$69.95

An exploration into abstract digital imagery. 100 color, royalty-free, screen display sized computer generated images that can be used in multimedia, video production, slide presentations, 3D renderings, desktop publishing and virtual reality. The images were standardized as 24-bit color PICT files with a resolution of 640 x 480 pixels (8.89" h x 6.667" w). Complete Aldus Fetch catalog included.

Published by Xplore



2090 Small Blue Planet.....\$59.95

"Stylishness to spare" — MacUser

Small Blue Planet: The Real Picture Atlas integrates a collection of maps with striking images of how satellites see our small blue planet. Features inset maps

and images located geographically within world maps. Includes the Chronosphere World Map and Times Globe; hundreds of satellite images from NASA Space Shuttle Earth Observation Project, USGS, and NOAA; almanac summaries of history, geography, major environmental concerns and vital statistics on each country of the world, plus much more.

Published by Now What Software

1280 Encyclopedia of Life.....\$99.95

An exciting, multimedia-rich, reference to life on our planet. Over 3700 entries, 130 QuickTime videos and 600 award-winning color photos. Access information on any animal or plant species you want

to know about. Key medical and anatomical terms included. Easy-to-use interface. An authoritative, easy-to-read educational tool sourced from the Macmillan Concise Encyclopedia. Create reports, presentations and lesson plans with the "save terms" feature.

Published by Gazelle Technologies, Inc.

Prices subject to change without notice.
Dealer inquiries welcome.

EDUCORP® 1-800-843-9497

UA18

EDUCORP • 7434 Trade Street • San Diego, CA 92121
Info 619-536-9999 • FAX 619-536-2345

SHAREWARE



**THE AMISH
OUTLAW**

THE SHAREWARE COMPANY

10 MOST WANTED

1. **Disinfectant** - Keep your system free from viruses. A must for all computer owners.
2. **Malestrom** - Great shoot'em up asteroids type game, with full 256 color graphics and sound effects that will blow your mind. System 6.07 or later. Requires a 256 color/gray scale monitor.
3. **Pathways of Darkness** - The first Macintosh game to utilize real-time texture-mapping! Excellent D&D style adventure game. Requires 8-Bit (256) Color display. System 6.0.5 or higher and 2 Meg of free RAM.
4. **Operation Intercept** - Fight wave after wave of deadly enemies. Runs in color or monochrome. System 6.0.7 or later.
5. **Scarab Of Ra** - Help the great explorer, Mississippi Smith, explore the Pyramid of Amond Ra, from which no one has ever returned. Good luck!
6. **Z Term** - Great communication program that even supports the Z Modem Protocol.
7. **Sound Master** - Installs code into your Mac during startup which can play sounds when various things happen. (System 6.0.2 or later) (1 Meg of memory)
8. **Personal Journal** - Gets your life in order and helps you to keep track of your busy schedule. (Hypercard)
9. **Cursor Animator** - Tired of that boring arrow now you can animate your cursor.
10. **Doc Maker** - Creates great stand alone documents.

\$3.00 per disk for 1-9 disks, \$2.50 per disk for 10 or more disks.
Available on 3.5" disks.
Add \$3.00 for Shipping.

The Amish Outlaw
10 Most Wanted
3705 Richmond Ave.
Staten Island, NY 10312

**Call 1-800-947-4346
for FREE Catalog**

CIRCLE 293 ON READER SERVICE CARD

**MS/DATA CONVERSION
SERVICES**

**DATA
CONVERSION**

More Formats Than Anyone Else!!
Quick • Reliable • Quality
NDC CONVERTS DATA/DOCUMENTS
TO/FROM THE MACINTOSH AND,
WORD PROCESSORS, MINIS, MICROS
DATABASES, SPREADSHEETS, MAIL LISTS
DISKS • TAPES • CARTRIDGES
CONVERSION/DUPLICATION/SCANNING
IBM, DEC, WANG
Apple, NBI, CPT,
Lanier, Unix, Xerox

NATIONAL DATA CONVERSION
5 East 16th Street, New York, NY 10003

(212) 463-7511

CIRCLE 294 ON READER SERVICE CARD

**Protect Your Mac with
ALL FABRIC DUST COVERS**

Finest Quality, Custom-Fit! ALL FABRIC

- Heat Ventilation, will not shrink or deteriorate with age! - Machine Wash & Dry! - All makes & models!
 - Custom orders! - Tan, Navy, Royal, Red, Maroon, Gray, Brown or Black - 100% Satisfaction Guaranteed!
 - Outstanding service since 1983!
 - Don't settle for lower quality. Ask us: Choose Monogramming or Heat Transfer of your Favorite Photo!
- | | | | |
|--|---------|----------------------------------|---------|
| 11-30 Classic & Video (200) | \$24.95 | 11-39 All Keyboard & Video (200) | \$11.95 |
| 11-34 Color Classic & Keyboard | 24.95 | 11-88 Mac Extended Keyboard | 9.95 |
| 11-84 L.C. Mac 14" w/Keyboard (200) | 24.95 | 11-90 Mac 14" Color Display | 19.95 |
| 11-90 Color-Video 14" w/Keyboard (200) | 24.95 | 11-14 Mac 14" Color Display | 24.95 |
| 11-90 Centra 610 CPU Only | 15.95 | 11-37 ImageWriter II | 15.95 |
| 11-77 Color-Video 14" w/Keyboard (200) | 24.95 | 11-33 LaserWriter Pro ICD | 19.95 |
| 11-79 Macintosh 600 CPU | 15.95 | 11-30 LaserWriter Select 200 | 24.95 |
| 11-87 Quadra 800 CPU | 15.95 | 11-92 LaserWriter II | 24.95 |
| 11-89 Quadra 900 CPU | 19.95 | 11-25 Personal LaserWriter | 24.95 |
| 12-25 Quadra 800 CPU | 15.95 | 11-50 LaserWriter | 15.95 |
| 12-26 DuoColor 14" w/Keyboard (200) | 24.95 | 11-91 LaserWriter II | 15.95 |
| 12-26 PowerBook Plus | 19.95 | 91-2248 P. Desktop/Keyboard | 19.95 |
| 11-7777 Don't see listed? Here's 7777 | CALL | SKIN Apple Keyboard Swivel | 15.95 |
- Ask \$4.00 Shipping & Handling (Check, MO, C.O.D. 90\$AMCO Sec'y's Vnt.2)
CO-DU-CO Computer Dust Covers
1800 W. Weymouth Ave., Dept. M11 Milwaukee, WI 53208
800-735-1584 414-476-1584 • 476-9329 FAX

CIRCLE 295 ON READER SERVICE CARD



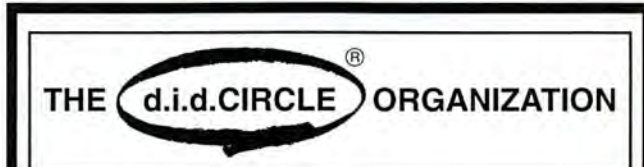
**POWERBOOK
HARDCASE**

Your PowerBook
Won't Feel a Thing!

DOUBLECASE™ 1-800-475-0707
5550 N. Academy Blvd.
Colorado Springs, Colorado 80918
FAX 719-594-9331
VISA & MasterCard Accepted

CIRCLE 296 ON READER SERVICE CARD

CONSULTING/PROGRAMMING



4th Dimension® specialists.

There is nothing better than the combination Macintosh, 4th Dimension and our specialist skills for larger corporate or institutional computer projects. Our realizations, both stand alone as well as client-server networks, show clearly that nothing can beat superior technology combined with our software analysis fine-tuned to a specific environment. Commercial, financial and administrative systems, but also process and production control, point of sale, bookings and reservation systems etc. etc. If you send us your project specifications we will be pleased to make a free costs estimate. On hourly fee basis we are also able to come and discuss with you your requirements. World wide intervention.

U.S.A.:	fax:	GREAT BRITAIN:
(1-703-) 869.8709 *		(44-71-) 410.0930 *
FRANCE:		JAPAN:
(33-) 93.18.90.47		(81-3-) 5562.9046 *

Note concerning numbers marked with a star (*) only: dial with handset, wait for connection (30 secs) then enter subscriber ID **5248724 ##** (two ##) and wait for fax tone (30+ secs more) before pushing 'start' on fax machine. Automatic machines should program pauses. Ex: (1-703)869-8709 pause(30 secs) **5248724##** pause(30 secs) start.

CIRCLE 297 ON READER SERVICE CARD

MISCELLANEOUS/ACCESSORIES

PowerBook Security
PORTABLE SECURITY • CARRY HANDLE • ADJUSTABLE SHOULDER STRAP



PowerStrap

Ong Engineering
2305 Cherrystone Drive
San Jose CA 95128

Phone: (800) 995-9121
Fax: (408) 249-3647

CIRCLE 298 ON READER SERVICE CARD

MagentaCase™ & VST ThinPack™
mobile computing essentials

- PowerBook and Duo cases on sale!
- Use your PowerBook in the case!
- Accessory Pockets • Fully Padded
- Call for Christmas specials!
- Ask us about the VST ThinPack - run your PowerBook up to 9 hours!



Magenta Seven
(800) 284-3957 (919) 787-2787

CIRCLE 299 ON READER SERVICE CARD

**SLIDE IMAGING
SERVICES**

SlideImagers®



- Slides/Overheads
- Dye-Sub Output
- Large Color Posters
- Canon Fiery Lasers
- Slide Duplication
- 4x5 Neg/Pos/B&W

Photo **Scans**
\$4.95 Slides & Canons
Digital Output

Rushes in by 3 P.M., out same day
Free Return Federal Express Call For Details
(800) 232-5411
Authorized Imaging Center
22-7th St. • Atlanta, GA 30308 • 404-873-5353
CIRCLE 300 ON READER SERVICE CARD

**Professional
Slides**

from your Macintosh and PC files
Authorized Aldus Imaging Center

- | | |
|-------------------|-------------------|
| 35mm Color Slides | Color Prints |
| Transparencies | Posters |
| Quick turnaround | 16 million colors |
| Great Quality | 24 hour bbs |

1-800-866-BYTE
COPY-CAD IMAGING INC.

Over 60 packages, and 30 other
graphic file formats supported!
Fax: 312-419-1390 BBS: 312-201-9308

CIRCLE 301 ON READER SERVICE CARD

DATA RECOVERY SERVICES

DigitalR
A Division of
Fedcom, Inc. USA

Data Recovery Experts
High End Monitor Repair Specialists
FAST Turnaround Time Guaranteed

619-384-2000 Ask for RX
Department
Visa/MasterCard



CIRCLE 302 ON READER SERVICE CARD

CPR & RS has been recognized in national magazines for its data recovery techniques and the ability to repair SCSI drives.

Computer Peripheral Repair & Recovery Services, Inc.

1750 S. U.S. Hwy. 1 Ste. 8 Hypoluxo, FL 33462
800-765-9292 407-586-0011

"Data Crash! ... We're Going In !!"



CIRCLE 303 ON READER SERVICE CARD

DON'T PANIC **TOTAL RECALL**

WE'RE HERE TO HELP!

- Class 100 Clean Room
- Friendly Technicians
- \$25 Evaluation Fee
- 1-4 Day Turnaround
- No Recovery, No Fee
- Syquest, Bernoulli, Optical

318 Reese St. Ridgecrest, CA 93555 • (619) 384-4500

"THE DATA RECOVERY EXPERTS" **800.743.0594**



CIRCLE 304 ON READER SERVICE CARD

ON-LINE SERVICES

DISCOUNT COMPUTER SERVICES

We repair, sell and buy all MAC CPUs and third party equipment and parts—new, used or dead.

Repair 1-800-770-0127

DCS, 4130 SW Dodgen Loop #J, Temple, TX 76504

CIRCLE 305 ON READER SERVICE CARD

SUPPLIES

STOP TONER **National Toner**

Empty Cartridges Recycled Guaranteed To Work Like New

\$36 From **\$36**

(800) 676-0749

FREE U.P.S. PICK-UP & DELIVERY

Recycling & Supply

CIRCLE 306 ON READER SERVICE CARD

TONER! **RIBBONS!** **ink jet refills!**

New & Remanufactured toner cartridges & other supplies for laser printers!

New and Reloaded ribbon cartridges for impact printers!

- RECYCLE & SAVE up to 70% on printer supplies!
- Friendly service & great products for over 20 years.

CALL FOR FREE SUPPLIES CATALOG **800-426-8196**

We buy empty toner cartridges.



CIRCLE 307 ON READER SERVICE CARD

WE CAN SAVE IT!



- Macintosh Data Recovery
- Repair any Mac Hard Drive
- PowerBook Specialists
- Optical/Syquest Recovery
- Fast Nationwide Service

400 Bel Marin Keys, Novato, CA 94949
CIRCLE 308 ON READER SERVICE CARD

ON-LINE SERVICES

MONITOR REPAIR

OUT OF WARRANTY
LARGE & SMALL
SCREEN MONITOR
REPAIR

Call for a Quote...

WestMass Computer
Ludlow, MA
(800) 966-9239
(413) 589-7112

CIRCLE 309 ON READER SERVICE CARD

ADULT

Where Adults Come To Play!

ODYSSEY BBS

- HOT CHAT Live W/Thousands of Ladies & Gents In Groups & Private
- Tons Of Sizzling Hot Message Areas, Shareware Files and Adult GIFs
- Matchmaker With "DATING-BASE"
- Straight & Gay Sections!
- Live Tournament Gaming!
- Local Numbers In Over 800 Cities!
- Unlimited Connect At One Low Price!
- Plus Much Much More!

The World's Choice For HOT MODEM FUN!

For Signup Or More Info Call **818 358-6968**

8 N/1. Must Be Over 18

CIRCLE 310 ON READER SERVICE CARD

Reach those who count!

Advertise in MacUser and reach business buyers making Mac purchasing decisions. Nearly 8 in 10 MacUser subscribers are directly involved in their organizations' decisions to acquire Macintosh computer products.

For information on how you can advertise, call your MacUser Marketplace account representative today at:

800-825-4237

ADULT

FREE!

Download the HOTTEST & SEXIEST Images from our ADULT On-Line Magazine - FREE!

LACE is an Adult On-Line Magazine that offers you:

- ORIGINAL Adult GIF Images not available on any other BBS!
- GORGEOUS, Sexy & Exotic Models both Amateur and Professional!
- QUALITY Adult GIF Images and VGA Movies produced by professionals!
- HIGH SPEED access available on ALL lines (14.4k down to 1200 baud).

Set your Modem to 8-N-1 and dial:

(818) 709 - 4275

Questions? Call our voice line at (818) 709-3795

LACE

the on-line adult magazine

Must be 18 years of Age or Older • Limited Offer

CIRCLE 311 ON READER SERVICE CARD

San Francisco's Premier Adult Gay Men's Online Service has NOW gone Nationwide!

- ▼ Local access from over 1,000 US cities!
- ▼ Live uncensored group & private chat!
- ▼ Online, interactive, multi-player games!
- ▼ Lively salon style public forums!
- ▼ Over 20,000 Adult rated GIFS & files!
- ▼ MatchMaker online databases!
- ▼ 50+ lines available 24 hours a day!
- ▼ Gay owned and operated, your privacy assured!
- ▼ Much, much more!

For your local access number, information, & signup, CALL:

(415) 703-8200

Set modem to 8/N/1. You must be 18 or older. Finally...a national adult Gay men's BBS!

EYE CONTACT

CIRCLE 312 ON READER SERVICE CARD

MacUser's BusinessCard section is a forum for innovative, hard-to-find and low-cost MAC products and services. Ads are listed by product category and include Reader Service numbers to allow fast, easy response.

RATES:

1 issue—\$515, 3 issues—\$495, 6 issues—\$485, 12 issues—\$465.

Multiple-ad per issue rates also available.

Prepayment must accompany each insertion. AMEX/VISA/MC welcomed.

AD FORMAT:

MacUser will typeset each Business-Card ad.

Advertisers should furnish typewritten copy. Ads include: 1) Headline (1 line, initial caps=30 characters max, all caps=25 characters max), 2) Descriptive copy (5 lines, 225 characters max), 3) Company name (same specifications as headline), and 4) Address and telephone number (2 lines, 40 characters per line). No logos, artwork or camera-ready ads. Publisher reserves the right to edit supplied copy to meet section specifications.

DEADLINES:

MacUser is published 12 times a year.

The BusinessCard closing is approximately two months prior to issue date.

Please send copy and payment to:

MacUser BusinessCard, One Park Avenue, 3rd Floor, New York, NY 10016.

ATTN: Cathy Conway

For more information, call Cathy Conway at

800-825-4237 or 212-503-5866,

FAX: 212-503-5860.

HARDWARE/ACCELERATOR BOARDS

ADD SERIAL PORTS

Hurdler™ Nubus 2 & 4 port serial boards provide Mac II users w/additional ports that are CTB/System 7.0 compatible. \$279 (2 ports-HDS) \$379 (4 ports - HQS). New SCSI/Serial version adds 4 serial ports via SCSI port ON ALL MACS. \$595 Intro.

CREATIVE SOLUTIONS, INC.

4701 Randolph Rd. #12, Rockville, MD 20852
1-800-367-8465/301-984-0262 Fax: 770-1675

CIRCLE 311 ON READER SERVICE CARD

CD-ROM

CUSTOM CD-ROM SERVICE!

- 660 MB Capacity! • Less \$\$ than floppies or hard discs • Macintosh HFS or ISO 9660 formats
- Safest archive for any type of file or application
- Perfect format for mastering & preproduction
- Ideal for unique applications

Northeastern Digital Recording

2 Hidden Meadow Lane, Southborough, MA 01772
(508) 481-9322 FAX: (508) 624-6437

CIRCLE 312 ON READER SERVICE CARD

POWER SUPPLIES

LONG-LIFE PB/Duo Batteries!

PTG's ThinPack will run your PB 100-180c for 5-9 Hr, is smaller than a pad of paper and weighs only 20 oz. With nifty battery mgmt software, \$200, postpaid; App. \$135. Duos will benefit from our Opti or Twinpack & 115.

Power to Go™

2889 E. Overlook Rd., Cleveland Hts., OH 44118
800-332-POWER / (216) 371-5557 (Tel/Fax)

CIRCLE 313 ON READER SERVICE CARD

PRINTERS

HEWLETT-PACKARD DEMO PRINTERS

All Macintosh/Apple Compatible
Laser Printers, DeskWriter Inkjet Printers,
PaintWriter Color Printers
Pen Plotters, DesignJet Inkjet Plotters
Specials: PainJet XL 300, LaserJet 4M

TED DASHER & ASSOCIATES

4117 Second Ave. South, Birmingham, AL 35222
(800) 638-4833, Fax (205) 591-1108

CIRCLE 314 ON READER SERVICE CARD

SOFTWARE/ACCOUNTING

4TH DIMENSION® ACCOUNTING

A4™ includes AP, AR, GL, PR Links, Invoicing, Quotes, Inventory, PO's, Job Costing, Contacts, and Call History. Financial reporting, graphing, and searching. Source Code and Client Server available. \$1,995.00 to \$5,995.00.

SOFTEK DESIGN, INC.

Telluride, Colorado
303-728-5252, Fax 303-728-6767

CIRCLE 315 ON READER SERVICE CARD

Print Checks On Plain Paper!

Eliminate costly pre-printed checks forever! Print 100% bank compatible checks on plain paper, using your laser printer. Print any style business, payroll, or personal check. Use with your existing accounting or payroll software.

AATRIX SOFTWARE INC.

523 N. Washington St., Grand Forks, ND 58203
1-800-426-0854

CIRCLE 316 ON READER SERVICE CARD

BUSINESS

INVENTORY • POS • UPS

Take control of your inventory! Largest POS Mac base—USA. A/R billing, bar code/cash draw/-receipt printers, auto vendor orders, custom forms, taxes, customers, labels, reports, G/L links & more! UPS-US/Intl. EASY for clerks. Free demo.

SHOPKEEPER Publ. Int'l, Inc.

3711 Shamrock W-Suite 110A Tallahassee, FL 32308 904-222-8808 or FAX 904-668-9916

CIRCLE 317 ON READER SERVICE CARD

ONE-STOP ACCOUNTING SOFTWARE

We carry nearly every accounting program on the market for small & medium sized business. Point of Sale; Inventory/Asset Management; Modular Systems; Integrated Packages. Call for our free catalog. Inquire about that program you've been looking for.

MAX COMPUTERS

1506 25th St., San Francisco, CA 94107
(800) 656-MAXX

CIRCLE 318 ON READER SERVICE CARD

PowerBook Spreadsheet • 5 mice

BiPlane upgrade Deluxe™ version. Affordable and easy to use. NEW: read & write Excel 4 files, linked sheets, 44 macros, tool bar & more. Ideal for Powerbooks; loads into 500K, minimizes disk accesses. ORDER TODAY • Intro \$59.95

Night Diamonds Software

PO Box 1608 Huntington Beach, CA 92647
Order/Info 714-842-2492 • Fax 714-847-1106

CIRCLE 319 ON READER SERVICE CARD

Manufacturing Tools

• Inventory Control • Bill of Materials • Purchasing Inquire/Mac is a full featured material management system for the small manufacturing company. Designed to work with your accounting software! Call for a free demo. 1-800-782-5682

OnBase Technology, Inc.

14 Hughes, #B105, Irvine, CA 92718
714-830-5682 Fax: 714-830-5691

CIRCLE 320 ON READER SERVICE CARD

MANUFACTURING QUESTIONS?

- ManuFacts™ provides the answers!
- Complete manufacturing Inventory Control
- Cost Tracking • Work in Process • Cost of Sales
- Pro forma invoice capability • and much more!
- Single- Multi-User Test Drive: \$45.00 C.O.D.

CSS, Incorporated

4523 Water Oak Dr., Lake Wylie SC 29710
(803) 831-1900 Fax (803) 831-9340

CIRCLE 321 ON READER SERVICE CARD

COMMUNICATIONS/NETWORKING

DICTATE TO YOUR MAC®

Don't let travel time be down time. Record your thoughts no matter where you are. Useful Voice Processor is a fully functional dictation machine in software. \$179.95. Dealer inquiries welcome.

Useful Software Corporation

12 Page Street, Danvers, MA 01923
Tel: (800) 666-9828 Fax: (508) 774-3918

CIRCLE 322 ON READER SERVICE CARD

EDUCATIONAL

CREATE SELF-MARKING EXAMS

QuizMaker transforms exams into Mac applications without programming. Quizzes can be distributed and run without purchasing additional copies of QuizMaker - interactive, sound, "new high scores", searches, etc. \$115.00

Doug Caldwell

190 Dore, Saskatoon, SK, S7K 4X7 CANADA
Tel: 306-966-5026 Fax: 966-8898

CIRCLE 323 ON READER SERVICE CARD

ENTERTAINMENT/GAMES

ADULT GRAPHICS

WE OFFER THE BEST IN ADULT-ORIENTED GRAPHICS FOR YOUR MAC. IF YOU ARE 18 OR OLDER, REQUEST OUR FREE CATALOGUE OF SIZZLING ADULT SOFTWARE. COLOR MACS ONLY. VISA AND MASTERCARD ACCEPTED.

CLEARLIGHT SOFTWARE

P.O. BOX 1411, DEPT. M, Milwaukee, WI 53201
(414) 962-2616

CIRCLE 324 ON READER SERVICE CARD

BusinessCard Is Direct And Powerful

MacUser Marketplace provides you with the most cost-effective advertising opportunity in the Mac market with a monthly circulation of 444,161.

BusinessCard

Call your representative today!
800-825-4237
Source: ABC, June 1993

CIRCLE 325 ON READER SERVICE CARD

BUSINESSCARD

ENTERTAINMENT/GAMES

CROSSWORD PUZZLES!

CrossPro™ - the definitive crossword solver designed for the Mac. Easy/hard clues, hints, timer, scoring, color & more add to the fun. Comes with 250 puzzles. \$38, check or money order (CO res add appl. sales tax) + \$3 s/h.

ASPEN GOLD SOFTWARE

P.O. Box 370486, Denver, CO 80237-0486
(303) 745-5448

CIRCLE 326 ON READER SERVICE CARD

MADE IN SWEDEN

Adults only Quicktime movies, Rated XXX, Great Action • SweDisk 1.1.3 HD disks, \$29 • SweDisk 1.2, 4 HD disks, \$39 • Get both 1.1+1.2 for \$59 • Demo-Disk + Catalogue \$5. • Add \$5. Worldwide s&h • Money orders or Cash only, no checks. Thank you.

SCANDI PRO IMP.

P.O. Box 5062 152 05 Sdt, Sweden

CIRCLE 327 ON READER SERVICE CARD

GENERAL

Create Thousands of Cartoons

Make countless unique cartoons, comic strips, & clip art with CartoonSketch™. Practical fun for kids, adults, and desktop pub's. Free shipping! 30-day money-back guarantee! Reg. \$99. Now only \$69! ck\w\mc. Order now, we'll ship it today!

MAKI SOFTWARE

7726 19th Ave., N.W., Seattle, WA 98117
Call us at (206) 789-8863

CIRCLE 329 ON READER SERVICE CARD

MEDICAL/DENTAL

MEDICAL PRACTICE MANAGEMENT

FRONT OFFICE™ is a leader in medical practice management with over 300 installations nationwide. Entire system, installation and support contract starting at \$155.00/per month. Call for FREE demo and information packet NOW!

FRONT OFFICE™

P.O. Box 54101, San Jose, CA 95154-0101
(800) 622-1700 (408) 978-6096 FAX

CIRCLE 330 ON READER SERVICE CARD

MUSIC/MIDI

A CD-ROM FOR \$3.99?

CD-ROM for new Korg X-3 Keyboard Music Workstation, built-in digital recording, general MIDI sounds. Perfect for the Mac Musician. CD-ROM and Catalog for \$3.99.

MIDI TO GO/Modern Music Store

5206 B Bay Rd. Saginaw, MI 48604
Tel: (517) 799-4800 Fax: (517) 799-5236

CIRCLE 331 ON READER SERVICE CARD

PROGRAMMING TOOLS

Inside 4D™ v 1.0.1 (New Product)

The Ultimate On-line Reference Guide to the 4th DIMENSION® programming language. Example code, description syntax for all 4D commands. For all 4D users, beginners to pro. ONLY \$129.95+ shipping. Distributors required Worldwide.

Mackenzie Associates

US Sales: 1-800-774-6743
UK: +44-642-634-600/+44-642-769-977 FAX

CIRCLE 332 ON READER SERVICE CARD

AWESOME BASIC COMPILER

FutureBASIC™ - Editor, Compiler, Debugger, and CrossRef. FAST! Sys 7.x and 32-bit clean. Toolbox, Local vars, Mac interface. Writes full applications, INITs, CDEVS, XCMDs, DAs, DCOds, etc. 800 pgs+ docs. QBASIC conv. incl. Call for information.

ZEDCOR, INC.

4500 E. Speedway, Suite 22, Tucson, AZ 85712
800-482-4567 or FAX 602-881-1841

CIRCLE 333 ON READER SERVICE CARD

REAL ESTATE

RATED FIVE MICE BY MACUSER

Real Estate Edge, Tracks clients, sends letters, envelopes, \$395.00, PROANALYSIS, produces comprehensive reports for clients, banks, and investors. \$295. PROPERTY MGR., keeps books, print reports & checks, notices...\$495/995.

Transoft Corporation

1150 Coast Village Rd., Suite H, Santa Barbara, CA 93108 Call (800) 949-6463 FAX: (805) 565-5208

CIRCLE 334 ON READER SERVICE CARD

RELIGION

BIBLE MASTER v3 - NASB, NIV

and more! Great computer Bible software. Uses a standard MAC interface. Fast, flexible, and easy to use. Transfer verses to your word processor. 30 Day money back Guarantee! Great discount prices! Free information!

AMERICAN BIBLE SALES

870 S. Anaheim Blvd., Anaheim, CA 92805
1-800-535-5131 or 714-449-9681

CIRCLE 335 ON READER SERVICE CARD

SCIENTIFIC

Awesome Calculator Application

Sum Total Rated *** In Oct/93 MacWorld. Powerful features ideal for scientists, engineers, programmers and graphic designers. Handles colors, matrices & more. \$99.95 value for just \$29.95 Call now for 30 day no risk trial.

Concurrent Engineering Tools, Inc.

1115 N. Delmar St. Ste B, Mesa, AZ 85203
Call 1-800-876-CETI or fax (602) 998-3844

CIRCLE 336 ON READER SERVICE CARD

SHAREWARE

Affordable Mac Software

Shareware - \$5 or less per disk! Huge selection of games, education, business, & utilities! Member of the ASP. New CD-ROM disk available with over 10,000 programs - \$46.99! Call us to request a catalog or order by phone!

Willard Computer Services

276 West Bagley Rd. Berea, OH 44017
1-800-860-9407 FAX (216) 891-1193

CIRCLE 337 ON READER SERVICE CARD

MISC./CONSULTING/PROGRAMMING SERVICES

4th DIMENSION Consulting

- Specializing in 4D and Client-server Apps.
- Expert in 4D 3.0 and 4D Server
- Network Design and Custom Applications
- Troubleshooting and Technical Support
- Documentation and Training

Natural Intelligence, Inc.

2067 Mass. Ave., Cambridge, MA 02140
(617) 876-4876 Fax: (617) 492-7425

CIRCLE 338 ON READER SERVICE CARD

DESKTOP PUBLISHING SERVICES

CONVENTION BANNERS & SIGNS

- Your Designs or Ours! (Mac & PC Files Accepted)
- Vinyl Banners, Nylon & Felt Flags, Showcards
- Political Campaign Buttons, Pennants & Bunting
- Bank Display Signs, Theatre Posters & Murals
- Rush Service, Low Cost Options, Free Brochures

Calder Spinelli Graphics & Signs

Box 404, 468 Bdw, Saratoga Springs, NY 12866
(518) 584-4011 Fax: (518) 583-1118

CIRCLE 339 ON READER SERVICE CARD

INSURANCE

Insures Your Computer

The COMPUTEROWNERS Insurance Policy provides replacement of hardware, media and purchased software. As little as \$49 a year covers theft, accidents, power surges and more! For information and to start coverage call 1-800-800-1492.

Safeware, The Insurance Agency Inc.

PO Box 02211, 2929 N. High St.
Columbus, OH 43202 800-800-1492

CIRCLE 340 ON READER SERVICE CARD

COMPUTER INSURANCE TO GO

On the go with your PowerBook? Computer Insurance PLUS is perfect. Full time insurance protection for your Macs. Coverages include theft, fire, accidents, power surges, natural disasters and earthquake. Rates start at \$60 p/year. Call now.

The ComputerInsurance Agency Inc.

6150 Old Millersport Rd., Pleasantville, OH 43148
1-800-722-0385

CIRCLE 341 ON READER SERVICE CARD

REPAIR SERVICES

!!! REPAIRS BY MAIL !!!

Low cost repairs at fastest possible rate! Call for quotes now! Warranty to two years. Best in the business. School orders welcomed! We buy dead Apple 5 PC Macs.

Arminius Pubs and Prods

8519 Orchard Ave., Merchantville, NJ 08109
609-662-3420

CIRCLE 342 ON READER SERVICE CARD

TRAINING

Rent MacAcademy Videos by Mail

Video's the easy way to learn! All major Mac programs available: over 85 different titles, each 2 hours long. A two week rental including S&H, costs less than a dollar a day. Return postage is prepaid. Get a free catalog.

CareerTAPES® Enterprises

PO Box 309 Center Harbor, NH 03226
(603) 253-7470

CIRCLE 343 ON READER SERVICE CARD

Platform Choose



**Point for point,
which platform is
the better choice:
the Mac or
Windows?**

My wife — a Mac devotee — needs a new computer. During our discussion of what Mac might be best for her, I suggested she use a Windows machine. I've come to the conclusion that Windows has become an acceptable alternative, if only because Microsoft's Word for Windows is pretty much the same as Microsoft Word on the Mac. If you know how to use one, you can use the other, so why not use it on a Windows machine?

She then burst into a diatribe about how Windows is to a Mac what a transvestite is to a real woman. She uses this analogy whenever she can, to imply that Windows users are somehow easily fooled. Maybe this was true years ago, but things have changed. Let's compare a Windows machine with a Mac and try to see what lies in the future.

Here's how the Mac is better.

1. Robustness. The Mac crashes less than any Windows machine I've ever used. From my experience, I'd say that Windows crashes the whole system (requiring a reset of the machine) two to three times as often as the Mac does. Crashes really annoy people.

2. True drag and drop. To install a new feature in your Mac, you just drop an icon into a folder. With Windows, you run a complex install program that sometimes requires tweaking or editing of system files.

3. SCSI support. Apple's implementation of the SCSI interface is a dream come true for people who want to add peripherals to their machine. It's true plug and run.

4. Mouse feel. If you're going to use a mouse, don't you think the mouse should have a good feel to it? Apple has all sorts of amazing algorithms to make the mouse easy to use. With Windows, the mouse is jumpy and hard to control. Whatever algorithms Windows is using to control the arrow aren't doing the job.

5. Better-looking output. Fonts on the Mac have more hinting, and Mac documents look better, however subtly.

Now, all five of these reasons can be disputed. Many Windows users have few crash problems. The install programs are a pain, but how many do you have to run in a lifetime? SCSI support in Windows machines is improving. The mouse feel is a nonissue as long as the mouse actually works. Who cares if it's not perfect in Windows? Ever used a mouse with a Sun workstation? The better-looking output is especially debatable.

OK, does a Windows machine have any advantages?

1. Cheapness. It costs less to buy a Windows machine, MIPS for MIPS, but the machines are much shoddier than the Mac.


2. Newer software. Most development is being done for the Windows machines. This may be negated by some outstanding Mac-oriented software in the development labs. We'll see.

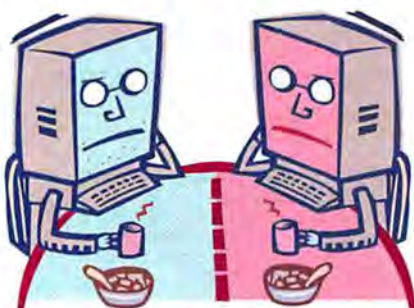
3. Greater variety of machines. Gee, people moaned and groaned when Apple broadened its line of computers. Now there aren't enough of them, if we are to believe this argument.

4. Cheaper, faster IDE hard drives. You can now get a 1.2-gigabyte hard drive with 8-millisecond access time for \$850. Tough to argue against this factor.

5. Upgradability. Most of the newer Windows systems have provisions for newer chips and higher speeds. This means a machine can have a much longer useful life.

I make a list like this every few years to see which platform is gaining the advantage. As of today, I'd say it's a wash. The Mac still seems like the better machine overall, with clear advantages. But the other platform may be turning into the VHS of computers while the Mac becomes the Betamax. Remember how, during that battle between VCR standards, the defenders of Beta howled about superior quality? Today's Mac users make the same appeal, but the offices of America aren't flocking to the Mac in droves, are they? Only graphic artists and other sensitive people are addicted to the Mac. This artsy market, although large, won't stay viable if the same software packages can be shown to run on a PC under Windows. The word-processing and spreadsheet markets are what drive the business buyers.

Although the parallel between the Mac and Sony's Betamax is apt, it doesn't indicate a completely bleak future. Sony ended up producing VHS machines and made Hi-8 a fantastic alternative, especially for camcorders. And Sony took much of its Betamax technology and turned it into a broadcasting standard format called Betacam. If Apple follows the same path, the Mac will turn into a specialized, professional graphics workstation (à la Betacam) and Apple will roll out the PowerPC Mac (Hi-8) and sell a PC clone (VHS)! It's this last action that will forever gall the Mac diehards. 





How many hours? I've lost count.

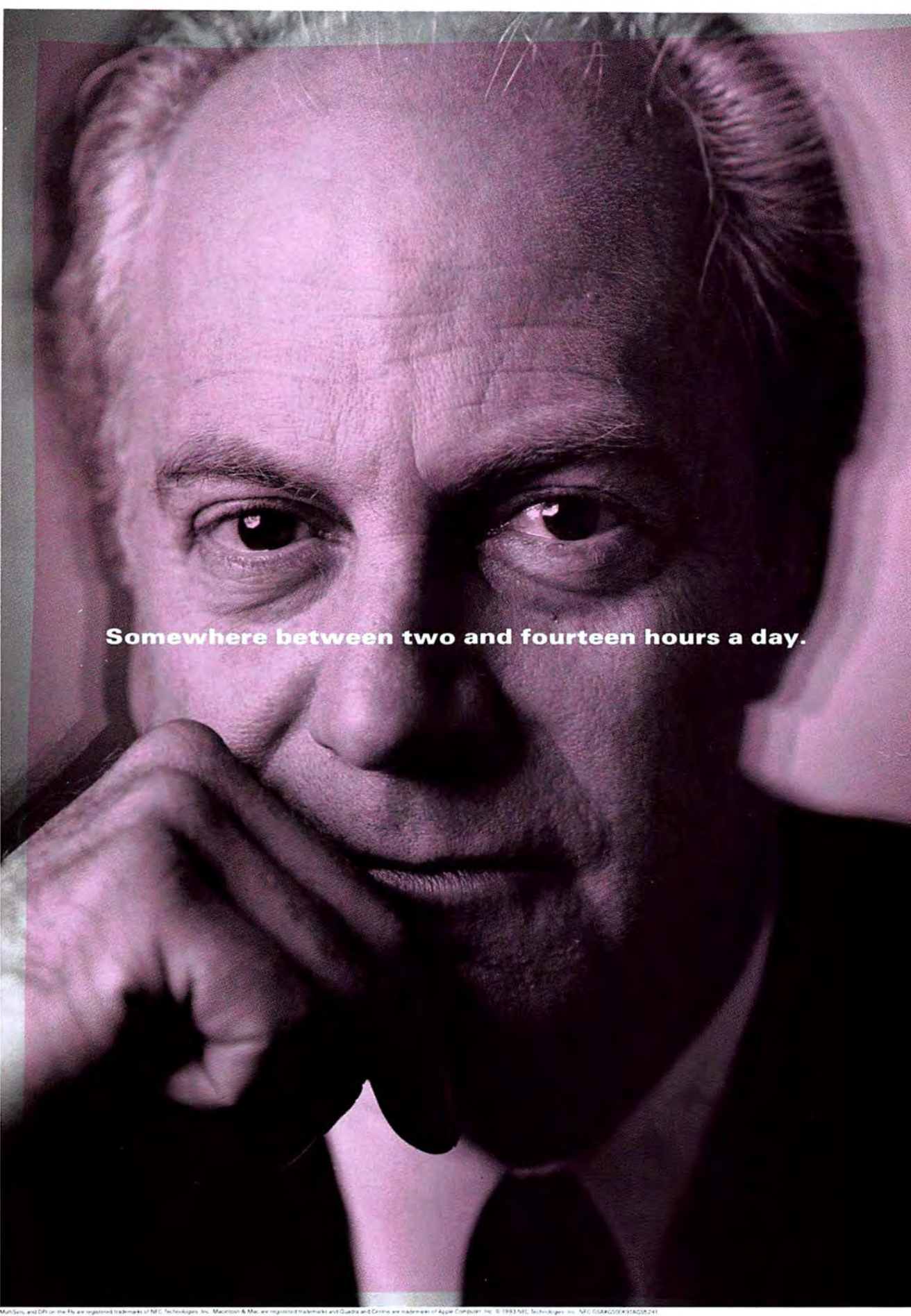
The easiest monitors to face for hours and hours: ours.

NEC MultiSync 4FGe

Our "e" series monitors were built to help you enjoy every minute you spend with your Mac®. Producing crisp, rock-steady images and vivid colors, our 15" MultiSync® 3FGe and 4FGe and 17" 5FGe* are perfect for just about any Mac†. Another reason: our DPI-on-the-Fly® software, written for Quadra, Centris™ and LC III, which lets you choose the best built-in resolution for your application just by clicking your mouse‡. What's more, the 4FGe and 5FGe offer our new Intelligent Power Manager system. And all three give you our industry-leading 3-year limited warranty. For more details, call 1-800-NEC-INFO. For information via fax, call 1-800-366-0476 and request our Macintosh® products catalog #6. We'll tell you all about some monitors that will make you very happy, not just for hours and hours. But for years and years.



NEC



Somewhere between two and fourteen hours a day.



Forty hours every week. And a few every Saturday.